

Valley Farmer.

A Monthly Agricultural Journal, Designed to Benefit the Planter, Farmer, Gardener, Fruit Grower and Stock Raiser.

VOL. 9:

FEB., 1857.

NO. 2.

PAGE'S PATENT PORTABLE CIRCULAR

SAW-MILL and HORSE POWER—The most useful and necessary in operation—is simple in construction, and easily kept in order, and can be moved on wagons as readily as a threshing machine, and put in operation at a small expense. It will saw from one to two thousand feet of lumber a day, with one team of six horses, as an average business, and in better style than any other mill now in use. It is equally well adapted to steam, water or horse power.

The undersigned, agents for the patentee, would announce to the public that they are now prepared to furnish Mills, with or without horse power, of superior quality and workmanship, with the right to use the same, upon the most favorable terms, at their manufactory, No. 202 Second street. We also have the right to manufacture

CHILD'S PATENT DOUBLE SAW-MILLS.

All orders addressed to us will be promptly executed and any information in regard to mills cheerfully given. Persons ordering mills will please mention the State and county in which they wish to use them.

KINGSLAND & FERGUSON.

NURSERY.

JULIUS MALLINCKRODT, near Augusta, a Port on the Missouri River, St. Charles Co., Mo., has a large supply of Fruit Trees and Plants, for sale this season 1856, '57, consisting of

Winter Apples,	Peaches,	Apricots,
Fall do	Cherries,	Plums,
Summer do	Pears,	Catalpas, &c.

Agency in St. Louis at the

MISSOURI SEED STORE AND AGRICULTURAL WAREHOUSE,
J. & A. LARGUE,
No. 4, North Main Street.

GEORGE KINGSLAND, LE ROY KINGSLAND,
DAVID K. FERGUSON:

**KINGSLAND & FERGUSON,
Phoenix Foundry!**
198, 198 & 200, Second Street, St. Louis, Mo.

MANUFACTURERS OF PAGE'S PATENT PORTABLE SAW-MILLS, CHILD'S PATENT DOUBLE SAW-MILLS and HORSE POWERS: COX & ROBERTS' PATENT THRESHER and CLEANER.

Threshers with and without Separators, Lever Powers, endless Chain or Railroad Powers, Corn and Cob Crushers, Corn Shellers, Plows, Bark Mills, and Mill Machinery.

CASTINGS of every description, made to order at short notice. Jan. '58.

J. H. LIGHTNER,

No. 82 SECOND STREET,

between, Olive and Locust, St. Louis, Mo.
MANUFACTURER AND DEALER IN

STOVES.

Charter-Oak, Golden Era, and other select patterns—also, Parlor and Shop Stoves, Parlor and common Grates, Sugar Kettles, Dog-Irons, &c. Also—

PLOWS.

Moline, Peoria, Diamond and other patterns for Prairie Breaking, or Fallow; also, Contractor's Iron Plow, for Railroads. [Jan. '58, 1y.

HEDGING:

We have about 100 acres planted to Osage Orange in Western Missouri, Iowa, Nebraska and Kansas. Will make hedge fences upon a principle entirely new, that will succeed with or without trimming, possessing five important advantages over the usual system, viz: suffering no injury if frozen down every winter, neither if fire ran through it. Protect stock better against the cold winds, and all the expenses semi-annually, trimming saved. Also not so liable to thin out at bottom. Our nurserymen are authorized to sell plants at \$5 per 1000. The purchaser will be furnished directions for planting upon the above principle; also any person wishing hedging done should let the nurseryman know it, that we may see them when we come. We will take in payment where the amount is sufficient to justify it, horses, mules, jacks, jennets, sheep, &c. Plants may be set any time from the falling of the leaf in autumn to the bursting of the bud in Spring. We design planting nurseries in every county and settlement (where thought practicable) in the States and Territories above named, and northern Texas. Will take contracts to hedge when ten miles or over can be had in the same vicinity. Also hedge for part of the land with or without the land being previously enclosed.

Address

JOHN D. THOMPSON.

Rural, Jasper Co., Mo.

ARE YOU SICK?



Then you can't be cured too soon. Don't delay until your complaints are incurable, and then mourn when it is too late. Four fifths of all the diseases which people the church yards, might be cured by Ayre's Cathartic Pills, if taken in season. Don't go dragging through the Spring, faint, sleepy and listless, because your blood is loaded with bile. Don't wear the Headache, Heartburn and their kindred disorders, because your stomach is foul. Don't parade yourself around the world, covered with Pimples, Blotches, Ulcers, Sores, and all or any of the unclean diseases of the skin, because your system wants cleansing. Don't show yourself about, lean, haggard, all caved in, because your stomach and Bowels need strengthening into action. Ayre's Pills set these things right as surely as water quenches fire. They purify the body and blood, and restore their functions into healthy activity which you can feel as quick as they are taken. They are the one great medical wonder of the age, recognized by all who know their virtues, and many thousands know them. Take the CHERRY PECTORAL for a cough, and the PILLS for all derangements requiring a purgative Medicine.

Prepared by JAMES C. AYER, Practical and Analytical Chemist, Lowell, Mass.—And sold by BERNARD, ADAMS & Co., St. Louis, and all druggists. 3t

AGRICULTURAL & MECHANICAL SOCIETIES ATTENTION!

We are now prepared to manufacture under our own supervision all kinds of

Premiums for State & County Societies.

—ALSO—
We have constantly on hand a large assortment of Gold and Silver Watches; Clocks, Jewelry, Silver Ware and Fancy Goods, which we will sell low at wholesale or retail.
E. JACCORD, & CO.

June 11.

No. 75 Fourth street, St. Louis, Mo.

COMBINATION PATENT PORTABLE UPRIGHT SAW MILL.

In presenting to the public the claims of this Machinery, we will state that its production is the result of the combined efforts of several of the most practical machinists and saw-mill men in the country.

During the last few years we have examined many new inventions and appliances in this connection, and have consulted with several thousand mechanics, fully experienced in the use of machinery for the manufacture of lumber. During the last year we have sold and shipped to various parts of this continent, nearly one hundred steam mills, the results of which have afforded us a large amount of practical information, as to the difficulties to be overcome, the defects to be guarded against, and the objects to be obtained in machinery of this character.

The Mill we now offer does not claim its superiority from any single improvement or patent which it may embrace, but as a combination of all the most valuable improvements which could be included within a single machine, added to which are several new appliances, lately patented, and others for which patents have been applied. It has been thoroughly and practically tested, and has been examined by a large number of well-known and scientific mechanics, whose certificates we shall soon publish, all of whom pronounce it more simple in its construction, more durable and more efficient in its operation than any mill ever before produced.

THE MOTIVE POWER.

The engine and boiler which have been planned and constructed for driving the "Combination Mill," are so compact and substantial, and so easily managed that almost every extensive planter or farmer would find them as convenient and valuable for the farm or plantation as a span of horses or a yoke of oxen. No one need be deterred from becoming the possessor of this motive power, by apprehensions of difficulty in running or taking care of it, for it is so simplified as to be within the comprehension of any judicious person, who will note the instructions always furnished with it.

The engine is nine feet long, has an eight inch cylinder, eighteen inch stroke, with feed pump attached to and operated by the engine. The driving pulley, which also serves for balance wheel, is 5 feet in diameter and 10 inch face.

The boiler is of locomotive construction, 10 feet long, containing 44 tubes, 2½ inches in diameter and 6 feet long. The shell is 34 inches in diameter. The fire box 36 inches long and 28 inches wide; smoke pipes 18 inches in diameter and 30 feet long.

The engine and boiler which we usually furnish, may be rated at Fourteen horse power, which is sufficient to drive the mill, together with a circular saw, shingle mill, a small grist mill, or other machinery of a similar character. As surplus power is of great advantage, this is the power we always furnish with the mill.

PRICES.

We furnish these mills and powers as described above, including all the screws, bolts, beltings, grate bars, saw, pump, wrenches, crowbars, and everything necessary to be used in and about the mill in running, excepting the two long bed pieces and the wood work of the carriage, which can easily be made anywhere, the whole put up and boxed, and delivered to this city, on board the desired transportation line, for \$1,650, with the addition of freight from New York, say \$125.

To parties desiring a larger power, we will furnish an engine and boiler of eighteen horse power, constructed in the same style as the above, with a mill containing an eight foot saw, and other parts corresponding, for \$2,000.

The above are our lowest cash terms, payable on delivery in the city.

PORTABILITY AND FREIGHTAGE.

The mill and power, as described above, all complete, weighs five tons, as follows:

Boiler, with connections.....	3,400 lbs.
Engine.....	2,400 lbs.
Mill.....	4,200 lbs.

The whole establishment, with four or five yoke of oxen, either upon carts, wagons, or trucks, can be easily moved at the rate of from 15 to 20 miles per day. The entire machinery can be taken apart and put together again in a very few hours time. Thus the necessity of moving the logs a long distance to the mill, is entirely obviated, as it is much cheaper to move the mill to the logs. As it will be perceived there is no mason work required, and no building, unless the parties choose to erect a rough shed to protect it and the operators from the weather.

HOW MUCH IT WILL DO.

The speed of this mill is about three hundred strokes of the saw per minute, and the feed from ¾ to 1 inch for every stroke, depending upon the character of the timber. Thus, at a medium speed the saw would cut through a log 12 feet long in from one to two minutes. From this data, any practical man can see that it is capable of cutting about 3600 feet of inch boards in 12 hours.

It will saw more rapidly than any mill we have seen, while its advantages over the circular mill are, that it is cheaper, requires less power to run it, is much less liable to get out of order, is much less expensive to repair, when damaged, makes less imperfect work, wastes less in cutting, is not dangerous to the parties attending it like the circular mill, and is capable of cutting much larger timber.

The segments and friction wheels we furnish for the carriage are twenty-four feet long. An extra length will be sent when desired, and an extra charge made. The pump sent is worked by the engine, and is sufficient to raise water about twenty feet. Where it is desirable to raise water to supply the boiler, from a great depth, a force pump will be furnished and an extra charge made for it. Drawings and explanations are sent with each mill, also a complete model, showing all the parts put together on a small scale, with each part numbered the same as the corresponding part on the machinery of the mill. Thus assurance is made doubly sure, that no one can fail to put up the mill and run it without difficulty.

The "Combination Mill" is confidently offered to the public as the most simple, efficient and practical machine for manufacturing lumber ever produced.

All orders should be addressed to Bragg & Burrows, St. Louis, Mo., sole agents for the West.

P. S. One of these mills can be seen at any time in operation, in St. Louis, by calling at our office, corner of Third and Market streets.

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N. J. COLMAN, EDITOR AND PUBLISHER,
Saint Louis, Missouri.

H. P. BYRAM, EDITOR AND PUBLISHER,
Louisville, Kentucky.

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AGRONOMY;

**OR THE SCIENCE WHICH RELATES TO THE CON-
STITUENT PARTS AND PHYSICAL PROPER-
TIES OF THE SOIL, &c.—NO. 8.**

HUMUS.

In the further discussion of this subject, we come to one of the constituents of the soil, which of all others is the most important to the farmer, and one that should be well understood; for his success depends more upon it than upon any other material connected with the soil which he cultivates. For when its nature and sources of supply are fully understood, farmers will better appreciate the value of manures, and the necessity of employing every possible means to maintain the original fertility of their lands.

Humus is neither more nor less than the food of plants, and without it no crops could be grown. It is the great abundance of this material in the soil of the prairies of the West that renders them so valuable as farming lands. The name usually given to this substance is "Mould." This term has been misinterpreted by many persons, who have understood it to mean the layers of the vegetable earth, and not a particular portion of its constituent parts. Several very clever agricultural writers have fallen into

the same error; and thus the obscurity which enveloped this part of the science has been increased. It is on this account the word *humus* has been adopted, about which there can be no mistake. In a scientific point of view the term "earth" is not at all applicable to this substance; properly speaking, it is not an earth, and has only been called so on account of its pulverulent form.

Humus is always more or less a constituent part of the soil. The fertility of the land depends entirely upon its presence; for, if we except water, it is to this substance alone in the soil that plants owe their nutriment. It is the residue of animal and vegetable putrefaction, and is a black body; when dry it is pulverulent, and when wet, has a soft, greasy feel. It is varied in its qualities and composition according to the substance from which it has been formed and the circumstances under which the putrefaction or decomposition took place; there are, however, certain properties which are inherent to it, and in general it is similar in itself. It is the produce of organic power—a compound of carbon, hydrogen, nitrogen and oxygen, such as cannot be chemically composed; for in inert bodies, these substances only enter into simple combinations of some two amongst them, and do not unite altogether, as in the case here. Besides the four essential elements of humus, it contains other substances in smaller quantities, viz: sulphuric and phosphoric acids combined with some base; and also earths, and sometimes different salts.

Humus is the product of living matter, and the sources of it. It affords food to organization; without it nothing material could have life, at least the most perfect animals and plants could not exist; and therefore death and destruction are necessary and accessory to the

production of animal and vegetable life. The greater the number of living creatures, the more humus there is produced, and consequently the supply of the elements for the nutrition of life is increased.

Every organic being in life appropriates to itself a daily increasing amount of the raw materials of nature, and these, after having been digested, resolve into humus, which increases in proportion as man, animals and vegetables are multiplied in any spot on the surface of the earth. It is, however, diminished by the process of vegetation, wasted by being carried into the ocean by water, and by being conveyed into the atmosphere by the agency of the oxygen contained in the air, which unites with and gradually converts it into a gaseous matter.

We have only to observe the process of vegetation upon naked rocks in order to understand the history of humus from the very beginning of the world. At first, only lichens and moss are formed there, from the decomposition of which more perfect plants derive their nourishment; these, in their turn, die and augment the mass of mould by their putrefaction; and thus at last, a bed of humus is formed, capable of affording nourishment to the largest trees.*

Voigt, in his supplement to the researches of Saussure, justly observes that "vegetable mould is vegetable matters partly decomposed, but not completely disorganized. It is a vast pervading plant, without organization, which itself bears and nourishes other plants, as a tree affords nutrition to all its branches and shoots. This vegetable mould is composed of vegetable bodies, and it may again be transformed into others of the same or a similar nature; it is frequently prepared very carefully with a view to this end."

Humus is not susceptible of putrefaction, properly so called—it seems rather to be in opposition to it, for the extractive matter readily enters into a putrid fermentation when separate from it, while so long as it remains in combination with other portions of the humus, this effect never takes place. The vegetation of plants, however, and the formation both of extractive matter and of carbonic acid, which takes place when the humus is exposed to the air, at length entirely consumes that substance, if it is not renewed and replaced by the addition of fresh manure. Were this not the case much greater quantities of this substance would be found up-

on the surface of the soil than actually exists there. "The destructibility of this vegetable earth," says De Saussure, "is an undeniable fact; and those agriculturists who have endeavored to avoid the necessity of manuring their land by bestowing repeated plowings upon it, have been convinced of this fact by painful experience. They have seen the soil become gradually more and more exhausted, and their fields rendered sterile and barren, by the absence of vegetable mould." In order to prevent the exhaustion of the humus, it is only necessary to restore to the soil, by manuring, some portion of the elements which have been taken from it by the crops that have been grown.

Humus produces different effects, according to the kind of soil with which it is incorporated. Clay, by means of its tenacity, retains the particles of humus which are mixed and incorporated with it, and protects them against the influence of the atmosphere, and consequently prevents them from being so rapidly decomposed. It is on this account that clay must be impregnated with humus before it will evince any great deal of fertility, because the roots of the plants cannot penetrate so easily into this kind of soil. When such land is cultivated for the first time, it is not endowed by nature with any great depth of humus, and requires repeated and plentiful manurings; but where it is impregnated plentifully with that substance, it will retain its fertility for a considerable period without requiring fresh manure.

Sand exercises a purely mechanical action on humus; the absence of cohesion between its parts, by which it is distinguished, facilitates the free admission of atmospheric air to every portion of the humus—favors the separation of carbon under the form of carbonic acid, and also the separation of extractive matter, and decomposes the humus much sooner. When humus is properly mixed with sand without any want of humidity, the land thus composed is exceedingly fertile; but this fertility is exhausted more speedily because the humus is more promptly absorbed.

When humus remains constantly damp, without, however, being covered with water, it forms a very unpleasant smelling acid. Soils in this condition, are what are termed "sour" soils. This acid or sour humus, is not at all of a fertilizing nature; on the contrary, it is prejudicial to vegetation. When it is very strong, and pervades the whole of the humus, the soil only produces weeds and other useless vegetation. Such land must be drained and deprived of that

*Humus is the modern term given by some chemists to the very finely divided organic matters which all cultivated soils contain. Liebig defines Humus as woody fiber in a state of decay.

excess of humidity which is so favorable to the formation of acids. When this has been done, such places will be found to contain rich stores of nutritious vegetable substances and become of the most fertile character. a

All humus, and especially that which has been recently formed, possesses essentially different qualities when resulting from the decomposition of vegetable bodies from those which distinguish it when formed by animal decomposition. In the latter case, it contains more nitrogen, sulphur and phosphorus, the presence of which bodies is rendered quite evident by the odor which it emits when burnt, which is similar to that arising from burning animal bodies.

MANURES AND THEIR APPLICATION.

Improved Farming! What is improved farming? We have frequently had something to say upon this subject. There are various modes of improved farming, or rather numerous branches connected with agriculture that under the present practice require improvement.

The aborigines of our land broke the surface of the soil and deposited the seed corn; the crop came forth, but the philosophy of the increase was a mystery into which they had not the means of proper investigation. So have many of our forefathers planted and gathered, until they exhausted the elements of fertility contained in the soil, which they then abandoned and sought for new and fertile lands in the West, which in too many instances are now subject to the same destructive system.

Improved farming consists in plowing, planting and cultivating in such a manner as will produce the most profitable return in crops, with the greatest improvement in the condition of the soil cultivated.

A proper system of manuring then, is the true basis of improved farming. Lands, however rich, must be manured in some form, or they will ultimately and surely become poor. If a farmer raises and sells from his land without manuring, \$5,000 worth of wheat and corn, he is not \$5,000 richer, his riches have only changed their form. Just so much of the elements which have been extracted from the soil in the growth of the grain which has been removed from it, just so much poorer is the land. Continue this practice and it will finally be worn out. Continually taking out of the meal tub, without putting anything in it, will finally empty it.

We are aware that in some sections of the

country circumstances will not warrant the cost of expensive manures. But the idea we wish to convey is, that a proper system of rotation of crops, including clover and the grasses, should be maintained, together with the careful management and proper application to the land of all the materials produced upon the farm capable of being converted into manure. This is the secret of the success of the most thriving and prosperous farmers.

In England and other portions of Europe, necessity and long experience have led to most important improvements in farming. So far as the supply of manure is concerned, this improvement depends on the number of animals kept upon the farm, according to its size. It is there clearly demonstrated that no system of agriculture can be permanently prosperous when the value of the vegetable products sold from the farm exceeds the value of the animal products. The cause of this is easily explained. The fertility of the soil must be maintained and improved by the manure made by the domestic animals kept on the farm. In Great Britain alone, eight millions of head of cattle are fed, and in Flanders the proportion is still greater. In no part of Europe are more successful and prosperous farmers found than in Flanders. There, a very large number of farm animals are kept in proportion to the vegetable products. This affords a large amount of manure, and the manure insures in return heavy and remunerative crops.

In referring to English and Flanders husbandry, we do not expect that our Western farmers will adopt the English system of raising turnips to sustain their cattle, or that pursued by the farmers of Flanders to increase the number of their domestic animals, for circumstances and the character of our country differ widely from theirs, but from their practice important lessons may be learned.

Upon a farm devoted to mixed husbandry, that is, where the ordinary crops of grain and grass are grown, and farm animals are fed, there is necessarily produced a large amount of straw, stalks and other vegetable substances, which, with a little care and good management, can be converted into manure with comparatively little labor. But from the very nature of the circumstances which surround the new Western settler, he is at first not able to attend to these matters, and from the *apparent* (and it is only *apparent*) inexhaustible richness of his land, he settles down upon the conviction that it is not worth his attention to increase his

manure heap, or even to apply to his land the manure which unavoidably accumulates about his stables.

In that most excellent agricultural paper, the "Michigan Farmer," published at Detroit, a correspondent asks, "Can you inform me how I shall make the most of my manure this winter?" To which the editor makes a long and elaborate reply, continuing through several numbers of the work, in which he lays down the method that should be employed to produce the greatest quantity of manure at the least cost, under ordinary farm management. He estimates the manure that should be made upon a farm, according to the number and size of the horses and cattle kept. Upon a farm of 100 acres, he estimates that at least four work-horses are kept, and of the ordinary size, each horse during the winter, will make from the food consumed, two tons of manure, besides the urine and what is lost while the animals are at work. In addition to the four horses, he estimates that six milch cows, their calves, one yoke of oxen, and fattening cattle, in all fifteen head, should be kept. With the ordinary feed and the proper use of litter, *two hundred and fifty* tons of manure should be made. This we know is a low estimate of what may be done, and yet how few farmers, upon 100 acres of land, save and apply one quarter of this amount annually to their land.

MODE OF APPLYING THE MANURE.

In a late number of the "Genesee Farmer," Mr. Johnson of Ontario county, N. Y., who is favorably known as the first pioneer in land draining, with tile in this country, describes his method of applying manure, which has led to considerable discussion through the agricultural papers. Mr. Johnson says for the last twenty years he has been in the habit of heaping his manure in the yard in the spring, or else has drawn it to the field where it was to be heaped and used there; and immediately after sowing wheat in September, he has it spread over the grass fields intended for corn the following season, when it is plowed under. When Mr. Johnson manures his wheat land, his practice is to spread it on after the ground is plowed, and harrow it in with the seed, or to spread it immediately after sowing and harrowing the wheat. Mr. J. says he has found this method of applying manure attended with much greater beneficial results than when applied in the usual manner and plowed under for spring crops. We have seen other good farmers who derived great advantage in this mode and time of applying

manure, but the prevailing sentiment has generally been against it. Judge Buel and other eminent farmers have advocated the plan of applying stable manure upon the land intended to be planted with hoed crops, such as corn, potatoes, &c., in its long and unfermented state, just at the time it was to be plowed, and of turning it under before it had time to dry, or the gases to evaporate.

They contend that the fermentation goes on sufficiently rapid when plowed under, and that the gases evolved are absorbed by the soil and given off to the growing crops.

Whether the manure is plowed under in its long, or unfermented state, in the spring, or more thoroughly decomposed and applied to the surface, the benefits from either practice must be governed much by circumstances. In the moist climate of England, long manures may be plowed under for spring crops, and the decomposition will generally go on, giving off their enriching properties to the growing plants, probably with less waste than if they were applied to the surface in a more thoroughly decomposed state. But in the dry climate of the United States, the season must be remarkably favorable as it regards rains, if *unfermented* manures are applied in any *considerable* quantity to spring crops, with any other than injurious results. If corn or potatoes are planted upon a heavy coating of unrotted manure, and dry weather follows, such as has marked several of the past seasons, the manure will undergo little or no change, while the crop will be materially injured by it.

Manures can only be rendered available to growing plants in a soluble or gaseous form. If spread upon the surface after Mr. Johnson's plan, the soil absorbs much of the manure during winter, in a liquid state, ready to be appropriated by the growing crop. There is evidently great loss sustained by the escape of gases during the process of fermentation, and much is also lost while the manure remains in heaps, by the washing rains and drainage, unless some means are employed to secure it. Among the best European farmers, not only is this liquid drainage saved, but the floors of the stables where their cattle and horses are kept, are so arranged that all the urine is conveyed into tanks or reservoirs, or absorbed by peat or muck obtained for the purpose, so that it can be readily and conveniently applied to the land. The liquid manure obtained is considered more valuable than the solid excrement of the animals upon the farm. From our own practice and ob-

ervation, we believe that manure should be made under cover, in order to protect it from the effects of washing rains. It should be pretty thoroughly rotted, and applied in the spring to hoed crops, or to meadows in the fall. In this form and manner of application there is less waste than in any other that we have seen practiced.

PREMIUM CROPS, &C.

At this season of the year the agricultural societies generally make up their premium lists. In these lists are included the principal farm crops—probably the most important and worthy of encouragement of any embraced in the whole catalogue of premiums. The object of offering premiums, is to establish an improved system of cultivation whereby the largest possible amount can be raised upon a given quantity of land with the least amount of labor, having in view at the same time, the permanent improvement of the soil. According to the established rules of some of the State and County societies, competitors for the premiums on farm crops are required to declare their intentions and enter their names with the Secretary of the society at its winter meeting; they are also required to keep an account of the manner of cultivation and the cost, and to make a statement in full to the Secretary, for publication in the transactions of the society. The advantages, if any, then become public property, and the objects of the society are secured for the award that has been made.

But there are some prominent societies that require nothing of this kind from competitors. It is merely necessary that they should go through a certain form by way of proof of the quantity of land occupied by the crop, and the amount of the product, not requiring that the land should be prepared and the crop put in and cultivated with special reference to a premium, but if per chance, on good land and a combination of favorable circumstances, a crop of wheat, corn, barley or hemp, promises to be a good one, the owner at once concludes he will offer it for a premium. The land is run off and the crop measured or weighed, according to the requirements of the rules of the society,—the award is made at the expense of the society, and the farming world is no wiser in regard to the cultivation and management of this particular crop, than if it had never been grown.

A crop, to be worthy of a premium, should not be merely a good one by chance, but good from judicious thorough cultivation and man-

agement. The object to obtain a premium should be in view with the first attempt to prepare the soil, and this object should be maintained until the crop is harvested, and a complete record kept from the beginning to the end, and a full report made out for the use of the officers of the society. If there is anything peculiar in the mode of treating the land, or in the cultivation of the crop, through the published reports of the society, farmers will have the benefit of it.

We know a number of agricultural societies that pay out, annually, several thousand dollars in the form of premiums, including those on farm crops, and the public know no more in regard to them than what they learn from the bare announcement of the awards in the public papers.

We hope the brief hints we have here thrown out will lead to a reformation and improvement in these matters. The most interesting part of the whole transactions of agricultural societies is the publication of the statements of competitors for premiums, of their mode of preparing the land, cultivating and securing the crop, or the method of making the butter or cheese, the management of the apiary, &c.

Premiums for the Best Conducted Farms.—Probably there is no subject connected with agricultural societies, resulting in greater benefit to the farmers at large, than from the premiums offered for the best conducted farms. Good farming, and that which is always most profitable, is the result of a well established system and good management. Examples of this kind should be multiplied by stimulating farmers to an effort for improvement; and these examples made public through the transactions of the society and the agricultural publications of the day, will do much to increase the number of well conducted farms throughout the country.

Premiums on Farm Implements and Machines.—While on the subject of premiums, we will allude to another omission which we have noticed in the record of public reports of some societies upon the award of premiums on implements and machines. Premiums are frequently offered on articles not manufactured by the competitors for the prizes, but are held by them for sale, or are furnished to them by the manufacturers for exhibition. For instance, there may be half a dozen competitors for the premium on the same kind of machine. The machines are entered on the books of the secretary of the society, and opposite the name of the exhibitor, are numbers indicating each machine, without any reference to the names of the patentees or

the manufacturers. When the award is entered upon the book it is—"Horse Powers (or as the case may be) premium \$100 to No. 2, A. B." and so the report is published in the news papers. By this mode of entry the public are no wiser in regard to the machine that the judges have pronounced the best, than if it had not been exhibited. The name of the patentee and manufacturer as well as that of the competitor, should be given.

Premiums on Essays.—We will make another suggestion on the subject of premiums. Many societies offer premiums for essays on various subjects connected with farm management, farm animals, the nursery, forest trees, &c. The amount of these premiums is generally \$10 or \$15 on each subject upon which essays are desired. The sum offered is so small that but few essays are received, and these are not always from writers best qualified to discuss the subjects. Well written essays on the various subjects usually chosen, are calculated to accomplish as much good to the public as any one department connected with agricultural societies, and the amount of the premiums ought to be such as will command the attention of able writers.

FARM FENCES—STONE WALLS.

Fencing is one of the most important items connected with farming. An estimate of the aggregate cost of the farm fences in the United States will astonish those who have not looked into the matter. The cost per acre of fencing a farm, of whatever material, will depend much upon the size of the fields.

The estimated cost of fencing in Canada, is set down at \$8.00 per acre. In our own country, where fields are generally large, from \$3.00 to \$6.00 is about the cost. A recent writer on the subject, estimates, at the lowest figure, the cost of the fences in the United States at *four hundred millions* of dollars, and the annual cost of repairs at *forty millions* of dollars more.

Different kinds of fence, and the different kinds of material used for them vary in different parts of the country, according to circumstances. In a well wooded district, destitute of saw-mills, the rail fence is evidently the cheapest. But when suitable timber can be obtained and mills are convenient, board fence is to be preferred; the first cost may exceed that of the rail fence, but a straight fence of durable posts and good boards, well put up, gives the fields a neater appearance, occupies less room and af-

fords less opportunity for weeds and briars to get a foot hold.

In many portions of the great West, neither timber for rail or board fences can readily be procured, unless at great cost. Where stone is not convenient, the Osage Orange is evidently the best material that can be employed. But hedges are destined to disappoint thousands who attempt to grow them. Of the hundreds of miles that have been grown, but few perfect hedges are to be seen. The labor of establishing them and keeping them in order is less than that of any other fence equally durable. But they must be properly planted and trained, and the regular shearing attended to in its proper time, or the cost and labor is lost. A neglect of this matter for one season, or for a few weeks, would prove fatal to the beauty and durability of the hedge, and if it is partially restored to what it should be, it will cost a much greater amount of labor than if the work had been attended to in its proper time. But the object for which we began this article, was to comply with the request of a subscriber to furnish some information on the subject of the construction of

STONE WALL.

Where the proper kind of stone is convenient, walls, undoubtedly, are the best as well as cheapest fences that can be constructed. In a former number of the Valley Farmer we gave an article from a correspondent on the subject of stone wall, which, from the cost stated, we think is predicated upon the manner of making stone wall in the Eastern States, of cobble stone, or boulders. In the West, generally, a different kind of material, or rather a material in a different form, is used for building stone fence.

In no country have we ever seen better stone walls than are now built in Kentucky, showing a marked improvement upon those built in the early settlement of the country. As many of them are now laid up they will prove almost as durable as the material of which they are constructed. In most sections of the State, as well as in some other Western States, limestone is found in the best possible form for building stone wall at the least possible cost. The stone is found in the quarries in layers of from two to six inches thick, with alternate layers of clay; this stone is easily quarried and broken into pieces of suitable size for building stone wall. The work is usually done by contract, the laborer quarrying the stone and laying up the wall for about \$3.00 a rod.

The foundation of the wall is usually laid four inches below the surface of the ground,

where it is level; on a side hill, liable to wash or undermine, it should be laid deeper than this. This is laid *thirty-two* inches wide to the top of the ground; at the surface, the wall is *twenty-four* inches wide, and carried up *four and a half* feet high, where it is diminished to *twenty* inches wide. Upon the top of this is a coping of stone placed edgewise, about ten inches high; these serve as binders to the whole wall.

The strength and durability of the wall depends much upon the manner in which it is laid up. The wall is usually faced on both sides, and the more frequently *binders* are laid, that is, stones that extend across from one side to the other, the more permanent the wall will be. These binders should occupy at least every third or fourth course. A wall laid up in this way will be permanent for ages to come. The same method of breaking joints must be observed as in laying the wall of a house. An ordinary laborer, with good judgment and with a few weeks experience, will learn to make good wall.

As a guide for maintaining the proper angles and dimensions of the wall, a frame of one inch boards, three inches wide, is usually made the width and height of the wall. From this frame several lines are drawn in the rough of the wall, and if the workman keeps within these, a handsome fence is easily secured.

The stone walls now erecting upon the farm of R. A. Alexander, of Woodford county, Ky., are perhaps six inches wider and one foot higher than the ordinary dimensions of farm wall, as we have given. These walls are constructed in the best possible manner, and unless some extraordinary accident occurs to them, they will not cost one dollar a mile for repairs in a century to come.

There are few countries where stone are so perfectly available for building good walls as in the better portions of Kentucky. The peculiar form in which they are quarried impresses one with the idea that they were formed from the beginning for the express purpose of fencing.

PUT THE TOOLS IN ORDER.

The present is a season of comparative leisure to the farmer. Besides the time required for preparing fuel for the household, and the care of the stock of the farm, repairing fences, &c., there will be many days when the weather will be such that but little work can be done out of doors. The long evenings will suffice for reading the general news of the day, and the agricultural periodicals as they are received,

leaving an abundance of time that may be devoted to putting all the farm implements in order before the opening of the season for the spring work.

There are some who call themselves farmers, who have left the plow in the furrow where its last work was done in the field, or in the fence corner near the place where the beam was broken. The mowing machine is left in the meadow that was last cut, with perhaps a bolt broken or a nut lost, and the blades injured. The cradle and the rakes are still hanging upon the tree, over the wall, or at the stable door; the braces of the cradle have been broken, and the rakes have lost a number of teeth, and the tools generally are in similar places, and in similar condition, as they will remain until the season for their use is half passed; then all is hurry, and no time is to be lost in having them put in repair. The "hired man" is dispatched with the team that should be plowing, to the nearest shop for a new beam to the plow. When the meadow is past ripe and the hay should be made and snugly put away, it is ascertained that the mowing machine is out of order, and this must be sent a distance of ten miles for the necessary repairs; and so with all the implements that should have been seen to during the leisure of the long winter. But such farmers do not read the agricultural papers, and to them our advice will be in vain.

But the "lucky farmer" always has, besides his wagon shed, a tool house, where everything when it is no longer in use, is put up in its proper place, where it is readily found. In connection with the tool house, there is a work shop with its work bench and vice, a chest of tools, &c. Here, during stormy weather, the servants are employed in rubbing up and oiling the bolts and screws of the farm machines, painting the wood-work, &c. The man that is more skilled in the use of tools is set at putting a new beam in one plow, a round in another, or in repairing the harrow and making a frame for a cultivator or a farm roller, one of the most important implements upon the farm; and when the spring arrives everything is in readiness. The plowing is all done in season and the corn and potatoes are planted in time to be beyond the influence of drouth. The hay is cut and secured before it is dried up or its vitality washed out by the continued rains, and when the fall comes, besides having an abundant supply of food for everything upon the farm, there is a large surplus for market. Such are the lucky farmers. Put the tools in order.

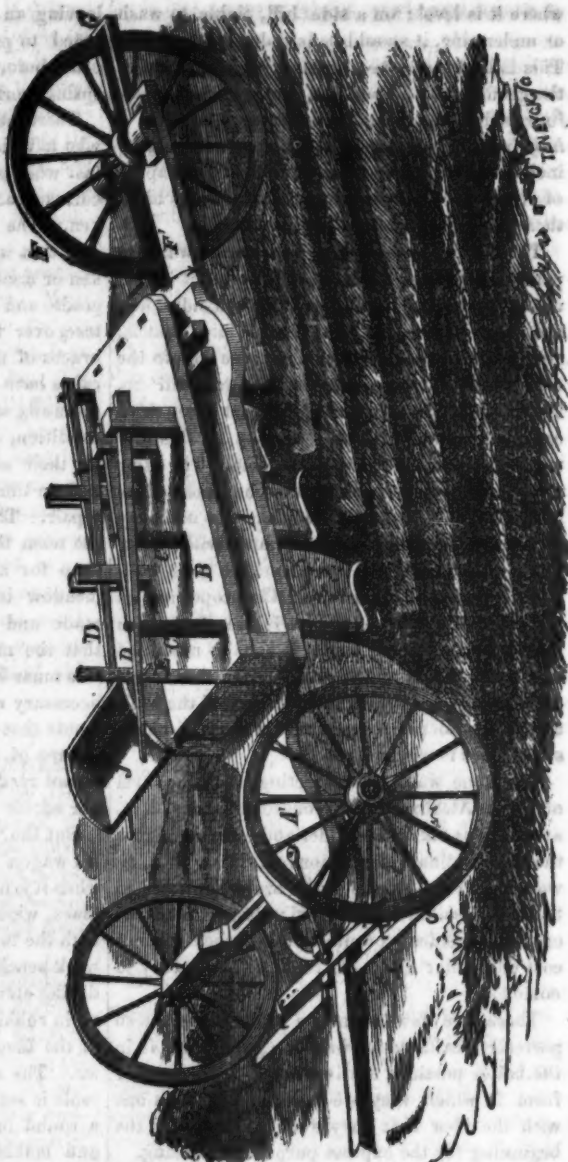
SMITH'S PATENT PLOW.

The accompanying cut represents A. & T. S. Smith's Patent Single or Gang Plow, patented March 4th, 1856. It is a Western invention, to which the attention of farmers and mechanics is respectfully invited.

It is worked by two or four horses or oxen, and called a Single or Gang plow because it can be used with any number of plows from one to four. It is adapted to any kind of plowing in any kind of land. Colters are attached in breaking prairie. In subsoiling the subsoil plows follow behind the others. In turning-in wheat or other small grain, from two to four small plows are used. In common breaking, from one to four large plows are attached. It can be adjusted to turn up any depth of ground less than twenty inches. With four horses it will break from six to eight acres per day. Right or left plows may be used, or both together, for ridging, if desired. The driver has a comfortable seat, and the levers by which he can raise the plows are within convenient reach of his hands. This machine is strong and durable, works equally well on rough or smooth ground, and has been exhibited in competition with the modern improvements in plows and secured, thus far, a very flattering preference. The plows may be removed or changed from large to small plows with facility. The hind wheel supports the back end of the machine, and turns upon pivots, which enables it to turn very short. For a particular description of the machine we will describe it by the letters contained in the cut.

A is a strong, flat, bottom board and B is another nearly similar, placed a short distance above A, the two being firmly bolted together at their ends. The shanks of the plows, C, pass through both boards and connect above with the levers, D, by means of which the plows are raised or depressed at will. The levers are held in any desired position by means of the pins and posts, E. The two boards, A, B, being separated, afford a strong and steady support for the shanks of the plows, while, the construction being simple, the plows may be renewed or changed with great facility. Wheel F supports the back end of the machine, and its frame F is pivoted to A. It permits the machine to make a very short turn, and adjusts itself. G is a scraper which removes any dirt that adheres to F.

The front axel H, is slotted longitudinally,



so that the front end of the machine, A', draft tongue, bands, etc., may be shifted from side to side, according to the number of plows employed on the occasion. Such shifting is necessary in order to bring the draft always in proper line. The front end, A', attachments, are secured at any position on the axel, H, by means of the screw, which permits it a ready re-adjustment whenever necessary. The axel is somewhat enlarged at I, and the wheel on that side placed on a different level from its mate wheel, so that when one of the wheels runs in the furrow, the axels of both are on the same plane. Address the inventor, at Troy, Illinois.

AN AGRICULTURAL LIBRARY.

A number of subscribers to the Valley Farmer have requested us to publish a list of books which will constitute "a good agricultural library," and to inform them where the books may be obtained. We are gratified to see such enquiries made. It indicates a change in public sentiment in regard to what has sneeringly been termed "book farming."

Agriculture is as much a science as any known to civilized man. Indeed, it is based upon several sciences which must now be understood and practiced upon to insure complete success. Agriculture in some of the European countries is practiced much more intelligently than it is with us, and although the lands in these countries have been under cultivation for hundreds of years, yet they are now much more productive under a scientific course of cultivation than ours are, possessing the richest virgin soil. Men of every other profession have their libraries; some of them, too, are very often large and expensive. A library to the farmer is as important and as necessary as it is to the lawyer, doctor or divine.

In a late number of the "*Homestead*," we find a list of agricultural and horticultural books that will make a very respectable library, which we propose to adopt with some modification.

In introducing the list the editor pays the following just tribute to the late A. J. Downing.

"As a pioneer of rural embellishment and practical horticulture in this country, Downing has left a name, which will long remain to suggest the true union of the beauties of nature and art. "Downings Landscape Gardening" and "Downing's Country Houses" may be considered among the classics of this department, and no library can be complete without them. The *Horticulturist*, at the beginning, edited by Downing, having completed ten volumes, is a rich storehouse of all that is new or valuable in the cultivation of the garden or the orchard, or the embellishment of the country residence. "Downing's Rural Essays" are mostly a collection of editorials from *The Horticulturist* and may supply its place when that cannot be obtained."

Upon Scientific Agriculture we have "Norton's Elements," "Johnston's Elements," "Stockhardt's Field Lectures," and "Nash's Progressive Farmer," all small volumes, but treating the subject in a masterly manner. Every farmer should have one or more of these. "Johnston's Agricultural Chemistry," considers the

subjects more fully. "Allen's American Agriculture," and "Bael's Farmer's Instructor," enter more into details of the culture of crops and are considered good authority.

"Bousingault's Rural Economy," translated from the French, "Thaer's Principles of Agriculture," translated from the German, and "Andrew's Modern Husbandry," an English book, detail the best practice in these countries, and will furnish many hints for home application. "Stephen's Book of the Farm," and "Colman's European Agriculture," are more extended works, and will afford much entertainment as well as information. "Liebig's Animal Chemistry," and "Organic Chemistry of Agriculture and Physiology," will of course deserve the notice of the student, as his discoveries have awakened so much interest in the scientific world.

"Dana's Muck Manual," though a small book, treats well of all the large subjects of soils and manures. "Lindley's Theory of Horticulture, or An Attempt to Explain the Principal Operations of Gardening upon Physiological Principles," edited by Downing and Gray, is a modest title for a book of so much value. "Breck's Book of Flowers," "Buist's American Flower Garden," "McMahan on the Kitchen Garden," and "Bridgeman's Gardener's Assistant," are practical books, and will not disappoint the purchaser. "Downing's Fruits of America," which will soon appear in a new and revised edition, by Charles Downing, "Barry's Fruit Garden," "Thomas' American Fruit Culturist," "American Fruit Grower's Guide," by Elliott, which will also soon appear improved and revised, contain descriptions of all kinds of choice fruit with directions for their culture.

Upon Animals and their diseases, there are "Allen's Diseases of Animals," "Dadd's American Cattle Doctor," "Youatt and Martin on Cattle," "Clater and Youatt's Cattle Doctor," "Stewart's Stable Economy," "Youatt on the Horse," "Dadd's Horse Doctor," "Morrel's American Shepherd," "Randall's Sheep Husbandry," "Youatt on the Hog," "American Poulterer's Companion," by C. N. Bement, "Quimby on Bees," "Saxton's Rural Hand Books," are small works which treat on various subjects important to the Farmer.

"Allen's American Herd Book," and "The Devon Herd Book" will be found useful volumes to breeders of cattle. "Allen's Rural Architecture," being a complete description of Farm Houses, Cottages and out buildings, or some other work of the kind will be useful to

every farmer. "Harris' Report on the Insects of Massachusetts, Injurious to Vegetation," and "Fitch's Noxious Insects of New York," and "Darlington's Agricultural Botany," will also be found both interesting and useful.

"Thomas' Farm Implements," is an excellent work on mechanics and on natural philosophy generally as applied to the ordinary practices of agriculture.

"Patent Office Reports," and the Transactions of the various State Agricultural Societies, contain much valuable information on every subject connected with agriculture. The former may generally be obtained free, through the representative in Congress, or any friend at the seat of government. The transactions of the State societies are only printed in limited numbers and can be obtained by but few persons not connected with the societies. But all of the others may generally be had of C. M. Saxton & Co., Agricultural Book publishers, 140 Fulton street New York, and of A. Gunter, 99 Third street, Louisville, Ky., and at J. M. Crawford's, 30 and 32 Chestnut street, St. Louis, Mo., and frequently many of the books named are kept at the large seed stores in the various cities.

BARLEY.

G. D. M. of Tennessee, wishes to know whether the spring or fall sown barley is the most productive; whether river bottom land is suited to this crop; the quantity of seed that should be sown upon an acre, &c.

The yield of barley whether sown in fall or spring depends much upon circumstances. Fall sown barley, if it has a favorable start and gets well rooted before cold weather sets in, and the winter proves favorable, will generally produce a good crop, but if the fall is dry and the plants do not get a good foothold, and if the winter proves variable, with considerable rain, alternating with cold, freezing weather, the crop is liable to be materially injured thereby. When sown in the spring with a favorable opening, the crop is generally good.

In the eastern States, barley is usually sown in the spring, and is found to succeed best. In Kentucky and this section of the West generally, it is more frequently sown in the fall.

Barley requires a tolerably light, dry soil, that is, less clayey than is best suited to wheat. It succeeds best when it follows cultivated crops provided the ground is left clean. It may be sown after clover, but the clover should be turned under in the fall. It may be sown as early in the spring as the ground is in good order for

plowing. From 11-2 to 21-2 bushels of seed is the quantity usually sown upon an acre. Farmers in the eastern States often sow more than this, and the European farmers sometimes sow as much as 4 bushels to the acre. Poor, mellow soils, if early sown require the least.

Cutting Hemp by Machinery.

J. L. W., of Lafayette Co., Mo., wishes information respecting McCormick's Reaper for cutting hemp. How much it will cut and how close to the ground, &c.

McCormick's machine has been in use for cutting hemp in some parts of Missouri, but with what success we have not been advised.

Experiments in cutting hemp by machinery, have been made in Kentucky, but none yet have been regarded sufficiently successful to warrant its continuance.

The chief objects to be secured in a machine for this purpose, are *strength*, cutting close to the ground, ease and facility in removing the hemp in order from the platform.

We think we have a plan that will secure all of these, if those in that line could put it into execution. Our own time is too much occupied in another channel to attend to it. It is time the labor of cutting and breaking hemp were turned over to the powers of machinery. A little well directed thought and calculation on the part of inventors would secure these ends.

PLOWING BY STEAM.

It appears from the following from the *Mark Lane Express* (England), that plowing by steam has at last been successfully accomplished.

The only difficulty, to our mind, which has presented itself, in plowing by steam, is from the ponderous nature of the engine upon land which has been once broken. Whether this trial was performed by locomotive or stationary power does not appear. We rejoice, however, at the success of the effort. Jonathan must hurry up or John will carry off the prize:

To the Editor of the *Mark Lane Express*:

Sir—I have, since harvest, plowed by steam, the whole of my farm, except a bit of wheat stubble, left to try an experiment upon in the spring, and a bit of clover-ley plowed with horses. It may be interesting to some of your readers to know the result. I find that the implements exhibited by me at Chelmsford are perfect; that an ordinary seven horse engine is sufficiently powerful for every ordinary purpose; that any old clay, hilly or uneven field may be plowed; that in plowing my bean and pea stub-

ble at a depth of six inches, I did an acre in one hour and thirteen minutes, and an average of five acres per day, including the time for shifting from field to field, at an average cost of 5s. 2d. per acre, including men, coal, water, and horses for shifting; and that in plowing my wheat stubbles, at a depth of eight inches on the heavy and ten inches on the light land, I did an acre in two hours, and an average of three acres per day, including time for shifting, as above, at an average cost of 8s. 8d. per acre, including men, coal, water, &c., as above; to this must be added interest of money and wear and tear, say 1s. 6d. per acre, which will be the outside, the tackle coming in nearly as good as it went out. As to the value of the work, I give it to you in the words of practical farmers who visited me: "On the wheat stubbles the common plow is of no use against yours; on heavy land the spade cannot equal yours; on bean stubbles one plowing with yours is worth more than two with the common plow." W. SMITH.

[Written for the Valley Farmer.]

VEGETABLE LIFE.

Deep in the soul of man abides the desire to overcome the mysteries and to solve the problems which crowd upon him in every part of God's omnipotent creation. His inquiring and investigating mind has penetrated in many instances, into the darkest labyrinth of nature. His discoveries have given birth to a new age of knowledge and invention. One problem, however, has hitherto still remained unsolved, to remind him at all times of that source from whence all his boasted mission has been derived. The world's whole knowledge has often united into one powerful lever to remove the curtain before man's blinded eyes. The divine spirit of life, is forever entirely inexplicable to us, and well may we remember that saddest of all earthly days, when Adam, banished from Paradise, saw the angel of the Lord, guard the way to the tree of life with sword that turned each way.

To our horticultural pursuits we are frequently forcibly led to acknowledge that we know but in part, and prophecy but in part. Our fondest expectations and cherished hopes are but too often destroyed by the fierce blasts of winter and scorching drought of summer. We see the favorite tree and the floral pet, which so often greeted our eyes languish and die, whilst other plants, for which we care but little, escape all dangers, without difficulty or damage. We cannot deny that our knowledge is yet sur-

rounded by many mysteries, and in the midst of many inexplicable facts, well may the intelligent enquirer ask himself, What do we know of vegetable life? what are its conditions and probable chances, and where do its limits end? From theory as well as from practical experience we derive many important hints, the deeper however we penetrate into life's mysterious history, the more we attempt to comprehend its source and origin, so much the more shall we realize that we live by faith and not by sight, in a sphere only, where science has no longer any value. Shall we in some future day, be enabled to see from face to face, that, of which we here possess but the foreshadowings?

Beautifully is this short sightedness of science expressed by one of the most celebrated chemists of the present day. In his chemical Field Lectures for Agriculturists, (a cheap and excellent work on Agricultural Chemistry,) Professor Stockhard says: "The divine spirit of life which effects these changes, and calls forth the phenomena of existence in the vegetable world, is in its essence entirely unknown to us. We give it indeed the name of *vital* power, but gain thereby no clearer appreciation or knowledge of its nature. Its operations are conducted in a manner so replete with mystery, as to render it apparently improbable that the speculations and inquiries of the human intellect will ever be converted into full and direct knowledge upon this point. We feel, it is true, the rushing of the vital current in the joy which pervades our being, when in spring it bursts the buds and covers the earth with showers of blossoms, as also in the melancholy, which attacks us when in autumn the withering of the leaves announces its withdrawal but whence it comes, whither it goes, or by what magic it evokes the wonders of the vegetable world, we are altogether uninformed.

Agricultural Chemistry has made us acquainted with the constituent elements of plants, the means of sustenance, and their various transformations during growth.

Vegetable Physiology shows us the inward structure of plants, the various changes of form, to which their separate parts, are subjected, during their existence, and it presents the various conditions, laws and phenomena, which govern the vegetable world. Intimately connected with the vital power, we find two assistant powers, steadily at work in the vital functions of the plant. The one, which might be called a physical power, moves the rough nutriment, received from without, through the organism of the plant

to those organs which are endowed with the other power, that of altering or assimilating the rough nutriment, to fit it for the increase and growth of the plant. Here a strictly chemical change occurs, and the altered nutriment returns by the aid of the first power, to other parts of the plant. A third power is to be remembered at the same time. It is that of self propagation for the continuance of the race.

If we examine an individual cell under the microscope, we can readily recognize it to be an independent living body. We perceive a constant regular motion of the liquid contents of the cell, and find that a part of the contents, after being altered is used to increase and enlarge the membrane or body of the cell. In the interior of the cell we also find in the form of infinitely small granules, the embryo or seeds of new cells, which in due time develop themselves into independent cells. Thus we have the above named leading powers of vegetable life, motion, assimilation and propagation, encircled, governed and made possible by the all important vital power. Applying the phenomena on a larger scale, we have at once the vital functions of the individual plant, which is a compound of an almost endless number of just such living cells as described above. For the plant, however, peculiar organs are provided for each of these leading powers. The rough nutriment rises through the infinitely ramified vessels to the leaves, here its assimilation takes place by a breathing like process. The altered sap returns to the stem and branches, to increase and swell their dimensions. The propagative cells we find in the flower, where they, in due time, attain the form of seeds, and in the axils of the leaves where they appear in the form of a bud. (A bud is essentially the embryo of a new plant, the branch a repletion of the stem and its leaves.) To this hasty glance over some of the most important principles of Vegetable Physiology, I would add a few remarks on the more practical side of the question before me. Volumes could be written, and I think have been written, without exhausting the subject. Nature has appropriated certain limits of temperature and situation to which the existence and well being of all plants are strictly subjected. For this reason we do not find the stately palm tree on the summits of the Rocky mountains, nor the cotton king in the State of Maine. Owing to many differences in soil, exposure and atmosphere, however, it is difficult strictly to define which degree of heat or cold, of moisture or drought, plants of the same nature and region are enabled to

withstand.* To resist the extreme of cold it is above all necessary that all parts of the plant have attained their full development and maturity, as every one knows that the least matured and youngest parts are easiest destroyed by frost. Death caused by frost may in many instances be attributed to a rupture of the cells. It is however certain that a chemical change of the contents of the cells takes place and causes the plant to perish. The degree of moisture of the soil, and consequently the quantity of water contained in the plant itself, cannot fail to exert a powerful influence upon its resistance against extremes of cold. It is fair to suppose that as soon as the liquid contents of the plant are congealed a chemical change is preparing to begin. To what degree of cold the temperature must fall, to become destructive to the life of the plant, has been ascertained with certainty in many instances. With many plants, however, trees especially, it is almost impossible to arrive at a certain standard rule, as the influences of wind, sudden and repeated changes from cold to warm, and especially the manner of thawing, change the results materially.

Fancy philosophers and gardeners occasionally tax themselves and their neighbors with questions and queries far beyond the present state of science and common sense. Let them remember that it is not good for man to know all things under the sun. Let them study, more thoroughly, the mysterious paths of vegetable life, before they investigate too profoundly in the *modus operandi* of death.

M. G. KERN.

[Written for the Valley Farmer.]

On the Value and Importance of the Mississippi Valley.

All commerce or exchange in productions of the earth takes a meridian like direction, when no geographical or local causes interfere, to vary its course. What is called Eastern and Western trade must of necessity take a northern or southern direction, until the natural law, the exchange of productions of the various climates on the globe, are satisfied. Exceptions to this law are of a local nature, as caused by different altitudes above the sea level, creating climates as varied as produced by latitudinal differences, or by the supply from fertile parts to those of a sterile nature. All geographical relations which form obstacles in the line of the meridians, are found great barriers to the intercourse of nations, as for instance, the great central mountain chains of Asia, cutting off forever

er the nations north of it, from those on the South.

Where is the continent that can ever rival the American, stretched out *meridian like* almost from pole to pole? with all its mountain chains taking the same direction, so as to interpose no natural barrier to the exchange of Northern and Southern productions. This inestimable advantage gives the palm to America forever, and she is therefore destined to have the *greatest continental, international commerce on the Globe*, with the cheapest and speediest means of interchange, as it lies a compact mass of land, combining all climates and productions, with ocean bounds like those of an island! And wherein consists the all surpassing importance of the Mississippi Valley? Answer: *in its direction; its meridian like course!* Let us view the great American rivers, the St. Lawrence, the Orinoco, the Amazon, all having an eastern course, producing under similar latitudes, similar productions, although equal in extent and fertility, to our own great valley, but which, in its surpassing course, runs through eighteen degrees of latitude, of which fifteen are navigable. Upon its banks are produced all varieties of small grain and grasses, the invaluable maize, rice, cotton, hemp, tobacco, indigo and sugar (sane and maple sugar both,) all northern and southern vegetables and fruits, daily exchanged between North and South by the cheapest, easiest, quickest and freest means, upon its own bosom. The La Plata river in South America having the same direction as the Mississippi, its merits must be proportionately great. Add the great abundance, variety and surpassing quality of its forests, mineral and coal upon its banks, and the millions of domestic animals feeding abundantly on its fertile, endless plains, and then form a feeble idea of the importance of the Mississippi Valley! In the very heart of a continent, the main river in the centre, its innumerable navigable tributaries, opening and watering its endless domain, with easy access, to every part of the compass. And is the mouth of the great river at the Balize? No! we find it not there—its real embouchure is in latitude 26°, between Cuba and Hayti; here lies the mouth of the great father of waters, whose sources lie in latitude 47° north. The banks and shores of the Mexican bay and West India islands are alike those of the Mississippi, and furnish its tropical productions. What imagination is there sufficiently ample to foreshadow the wealth, the power, the glory of the American nation upon this favored territory, in time

to come? A common origin, language, law and civilization, all crown the wonderful natural advantages of their domain with a free, unshackled, international commerce as a consequence.

To set off still more the incomparable value and situation of the Mississippi valley, we will name the great rivers of other continents: First of Europe, the Rhine, Weser, Elbe, Vistula, all having a short course in northern latitudes, produce mainly but small grain and grasses, the Danube the same productions, save in its lower descent, where maize, tobacco and hemp are grown; the river Don and Wolga bring forth like the first named. Asia's great rivers, the Indus, Ganges, Euphrates and Tigris have a meridian like course like the Mississippi and similar productions, but their valleys are far less in size and fertility, as from the great dryness of the climate and partial aridity of the plains through which they flow, they are also far less navigable. Still the great importance of these streams are *alike* attributable to their meridian like direction. The same applies to the Nile, the only African river of great importance. Upon its fertile, though contracted valley, stood more than five thousand years ago, next to that of the Ganges, the second cradle of the mother of nations and human arts! The world renowned Nile! what is it in comparison to the Mississippi—a small strip of fertile land in the midst of a desert, with but a partial navigation, and hardly any tributary streams; still that small fertile strip of land gave the strength to rear the wonders of the world, the pyramids, obelisks, temples and labarynths, by myriads of human beings. Fabrics of human skill and industry follow in the wake of the direction, which the produce of the earth takes, for all commerce is but an exchange of productions and commodities.

EMIL MALLINCKRODT.

SELECTING SEED CORN.

MESSEES EDITORS:—An article in the Dec. No. of the *Valley Farmer* on the subject of selecting seed corn, says: "It is the practice of many of our western farmers to gather their corn during fall and winter and place it in their cribs, and make no selection of their seed corn until the time of planting in the spring arrives, and then the best looking ears are culled from the crib." If the writer had said *all* of our Western farmers he would have hit the nail on the head exactly, for I venture to say there are ninety-nine one-hundredths of our Western farmers that never look after an ear of seed corn until they get their ground prepared for planting in the spring.

Then they will go to their crib, which, in many instances that have fallen under my own observation, has stood all winter without any roof, and commence the operation of searching for seed corn. The top of the pile, perhaps two or three feet in depth, has been alternately wet, frozen and thawed half a dozen times during the winter, being in great haste, (as farmers generally are about the season of planting,) time cannot be taken to remove the damaged corn and consequently the seed cannot be good. Even if the crib should be fortunate enough to have a roof on, corn is liable to be injured by hard freezing, especially if it has not been completely matured before the frost killed the stalk.

The early frost the present season, renders it very important to the farmer to look well to this point, and spare no pains in selecting his seed. When selected it should be placed in some warm, dry place near the fire, in order to keep it from freezing. In the spring, before planting, soak a few handfuls in warm water and ascertain if the germ is alive.

The writer of the article referred to recommends "selecting seed in the field, where the strength and vigor of the plant may be seen." Now as to seeing the stalk upon which an ear of corn grew, in order to decide whether it is suitable for seed or not, I deem unnecessary, for the fact is, a small, spindling stalk never bears a large, thrifty ear, such as a man of good judgment would be likely to select for seed, nor is it always the largest and most thrifty stalks that produce the best ears.

But the plan of selecting seed corn in the field is a good one; it is the only true plan upon which the farmer can act. It has a threefold advantage, viz: it gives the farmer an opportunity of selecting his seed from his whole crop, it enables him to put it where the cold and wet of winter will not damage it, and when he plants it, it is sure to spring up and grow.

Let some of our farmers who have had to plant their corn two or three times, in one season, and then perhaps only get half a stand, try this plan one or two years, and then report their success.

Pleasant Vale, Ill.

A radical change is taking place in the practice of agriculture. More mind-work is used. The farm is not robbed of its fertility, as formerly. Manures are applied, grasses are grown; the land has a season of rest; the farm is made better instead of poorer. This is the true policy to pursue.

The Vegetable Garden.

Now is the time to make preparations for the garden. Make hot beds and sow the seeds in them for early vegetables. Manure the garden with well rotted manure, and plow it under the first good opportunity. Plow deep and pulverize the soil thoroughly before planting seed.

OKRA PLANT—OKRA COFFEE—GUMBO SOUP.—At what period the Okra or Gumbo plant was introduced into North America, I am unable so state from any books in my library. The Encyclopedia Americana has no article upon it, although it has been a common garden vegetable in the Southern and Middle States for more than fifty years.

It was first used as a substitute for coffee, and was called Okra Coffee. And, unquestionably, it is the best substitute ever discovered. Some years ago, a writer, I think in the Prairie Farmer, pronounced it equal to the finest Mocha, and I can add that I consider myself a good judge of the genuine article, and I have at least once, without detecting it, drank the Okra with the usual gusto. In fact, as far as I can discover, the taste and odor of the two articles are identical. I should be pleased to see a comparative chemical analysis of the two berries, so dissimilar in everything except the taste and smell.

The cultivation of the Okra is very simple. The seed should be drilled like garden peas, in slight soil, about the first of May. The plants, to be thrifty, should be at least two feet apart. When the pod is about half grown it is fit for use. It is then as tender as a young cucumber, and will not burst in the boiling. Take a dozen of these pods, which is a good mess for a family, and boil them thirty minutes in pure water (using a tin pan instead of an iron vessel,) then lift them carefully with a spoon into a deep dish, and immediately season with sweet butter, rather copiously, then salt and pepper, if preferred.

To make gumbo soup, cut two or three pods into slices, as you would cucumbers, for one gallon of any kind of soup. Tomatoes in large quantities, and green corn, cut from the cob, are the usual admixtures for gumbo soup. Too much Okra makes the soup insipid. There should be just enough to give it a rich mucilaginous taste.

But the Okra is principally valuable for boiling. To relish it one must use it for a season, and then it must be well cooked. Those who are accustomed to its daily use, from July to October, would not exchange it for any vegetable product whatever.

I have cultivated it in Iowa for the last ten years, and it flourishes admirably. It should be in every garden, by the side of the tomato and the egg plant—these invaluable and wholesome vegetables, introduced into the country about the same time.—*Correspondence of Plow, Loom and Anvil.*

Stock Raising Department.

LAMAS.

The Spanish government are importing Lamas from Peru to Cuba. Upwards of one hundred have already crossed the Panama Railroad, and several hundred more, it is said, are shortly to follow. These animals, we presume, are imported to be used as beasts of burden in the mountain districts of the Island. In their native country they are extensively employed for this purpose. The riches of the mines of Potosi are chiefly transported by them. Bolivar affirms that in his time, above three hundred thousand of these animals were in actual employment.

The Lama is hardly half the size of the Camel, but will travel with a load of two hundred or two hundred and fifty pounds weight upon its back. Their pace is slow, and their journey is seldom over fifteen miles a day; but then they are sure and descend precipices, and find footing among the most craggy rocks, where even men can scarcely accompany them. They generally travel for five or six consecutive days, when they are obliged to rest, which they do, of their own accord, for two or three days. They are timid and gentle, and do everything with the greatest leisure and caution. When they stop on their journey, they bend their knees very cautiously, in order to lower their bodies without disordering their load. As soon as they hear their driver's whistle they rise up with the same precaution, and proceed on their journey. They feed, as they go along, on the grass they meet with in their way, but never eat in the night, making use of that time to ruminate. The Lama sleeps like the Camel, with its feet folded under its belly, and ruminates in that posture. When overloaded or fatigued it falls on its belly, and will not rise, though its driver whips it with the greatest violence.

In many countries these animals may be rendered very useful as beasts of burden, as they are attended with no expense to their masters. For, as they are cloven footed, they do not require to be shod, nor do they need shelter, as their hair or wool is sufficient protection against the weather. Satisfied with a small portion of vegetation, they want no grain to subsist upon. Fitted by nature for a dry climate, they are still more moderate in what they drink, and as a substitute, nature has provided them with salivary glands which secrete moisture in greater

quantity than any other animal. Their saliva is their chief means of defence. Though timid and gentle, if teased or ill-treated, they become spiteful and will blow their saliva in considerable quantities upon the persons who offend them. It has been asserted that the saliva is poisonous, but this is not the case.

The Lama yields a considerable quantity of hair, or rather wool, probably double as much as the Cashmere goat. Upon the back it is rather short, but upon the sides and belly it is very long. In their wild state, the natives hunt them for their fleeces alone. The wool may be spun into various beautiful fabrics,—their flesh is also said to be excellent food.

As a wool producing animal, as well as for their flesh, we do not see why the Lama may not be introduced into many portions of the poorer mountain districts of our own country to advantage, particularly in the warmer parts of New Mexico and California.

SHEEP RAISING.

EDITORS VALLEY FARMER.—I am preparing to engage in the business of raising sheep. I believe, if properly managed, it will prove as profitable as any business the farmer can follow. I think this county (Jefferson Co., Mo.,) is well adapted to sheep, as indeed most of the counties in Missouri are. Will you have the kindness to give me your opinion as to which is the best breed for me to have?

SUBSCRIBER.

We could answer the question of "Subscriber" more satisfactorily, if we knew for what object he intends to raise sheep. Of course it is profit. But whether that profit is to be obtained from the wool, or the mutton, or both, he did not inform us. If it is from the wool, chiefly, we should recommend the Merinos.—They have a fine, heavy fleece, which always commands the highest price in market. As mutton sheep, however, they are indifferent.—If "Subscriber" desires to obtain the principal amount of his profit from the mutton, we should unhesitatingly recommend the South Downs. The mutton of this breed is very superior. Indeed, there is none like it, in our judgment. It always commands the highest price in market. Well fattened wethers will bring from \$12 to \$20 per head in our market. It would be a profitable business to raise them for the mutton. They produce but a light fleece of wool.

If a breed is desired as a sort of medium between the two extremes—that is, a breed where the profit would be obtained from the wool and mutton, we should recommend the Cotswold and perhaps the Leicester. They produce heavy fleeces, and a good quality of mutton. We should be glad to have the experience of our subscribers who are engaged in sheep husbandry, as to which breeds are most profitable, and best adapted to the West.

DEVON CATTLE.

It is well known that different breeds of cattle are required for different purposes. Among the important breeds the Durham, Devon and Hereford are the best for beef and the yoke. For the dairy, the Ayreshires, Jerseys, &c., &c., are the best. A breed of cattle that takes on fat the fastest is not organized to secrete milk of the richest kind nor in the largest quantity, for the reason that the secretions are directed in another channel, and are converted into flesh and fat instead of milk. A cow that gives a large quantity of rich milk is always thin in flesh, and one that takes on flesh readily, yields generally, thin, poor milk.

Among our native breeds of cattle good milkers may be selected; others again are found to thrive faster and will make good beef. Among the steers there are those that are compactly built and of good size, that often make excellent oxen. But in the great West the production of beef is the leading object of the grazier. In those sections, under a mild climate, with a rich soil, the Durham is evidently the best breed for beef. In the more cold and less fertile portions of the country the Devons are the best adapted.

We believe that with proper treatment the Durham and Devon may generally be brought to maturity in half the time, or at half the cost that the common cattle of the country can.

There is now a good supply of Durhams in the country—animals that are not excelled by any in England, and may now be bought at a much less price than those of equal merit in that country. A cross of the Durham upon the common breed we believe every farmer would find much to his profit.

But our object now is to speak more particularly of the Devons. There is a wide extent of country in the West including Texas and the more Northern States, where cattle receive less care than is usually bestowed upon them in the older States of Ohio and Kentucky. They are raised in larger numbers and are allowed, to a considerable extent, to roam upon the prairies, and in the cane brakes throughout the most of the year, receiving no shelter and but little care and feeding. This class of animals require five or six years to render them fit for the shambles, and although the cost of rearing them is but little, yet the introduction of a breed that would grow to a greater size in less time would be an important acquisition; and the Devon, we believe, is the breed that will be found admirably suited to these sections.

There are now several Importing and Breeding Companies located in the West, who will, undoubtedly do much to improve the breed of cattle.

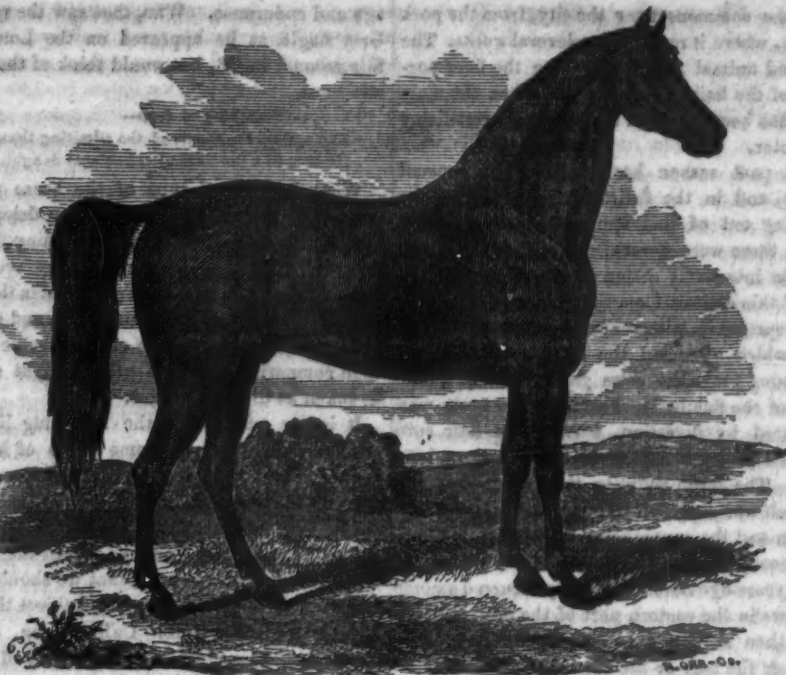
The chief supplies of beef for the great Eastern markets, will ultimately come from the West, and the improvement in the present race of cattle is a matter of the first importance, and we hope for the more rugged and colder sections of the West the Devon will be introduced.

A cross of the Devon upon the hardy cows of the native stock produce a most excellent race, either for the yoke or for beef.

Water for Farm Animals.

There are too many instances where farmers fail to make the proper provision for a full and constant supply of water for their stock. During our dry summers there are many farms where cattle undergo great suffering for want of water, and in too many instances where they have access to water it is of the most stagnant, unwholesome kind. We believe that impure water is as hurtful to farm animals as it is to man. But in winter, there are instances where stock suffer more for the want of water than they do in summer. There are many farmers who make better provision for food for their stock than they do for water. Feeding may be regularly attended to, and a supply of forage always on hand to meet the demand, but where ponds are depended on for a supply of water, in cold weather they become frozen, and without constant care in keeping watering places out open, they will in a few hours freeze over again so hard that cattle cannot break through, and in this way are liable to great privation. Eating dry hay and straw induces thirst, and water should always be within the reach of farm animals, to drink when they choose. If watered but once, or even twice a day, and then only when it pleases the attendant to afford the opportunity to procure it, animals often drink to excess, which effects the circulation and digestion, and deprives them of the animal heat, which will require perhaps hours to restore the equilibrium of circulation.

Rain water is the best and generally may be the easiest supplied to farm stock. Every farmer should have a barn. A building of sufficient size to shelter the horses and cows, with the other necessary room for the storage of tools, &c., will afford sufficient rain water for the stock of the farm. Cisterns can now be built comparatively cheap, and when properly arranged, water may always be convenient for stock as well as for other uses about the premises.



PAUL CLIFFORD

Was foaled in 1843. Sired by Black Hawk, grand sire, Sherman, gr. grand sire, Justin Morgan. Dam by Young Hamiltonian; he by Bishop's Hamiltonian, and he by Imported Messenger. Grand dam by Leonidas, an imported horse. Color, mahogany bay; 15 1-2 hands high. Now owned by Messrs. Hunsden & Wilcox, of Oswego, Tioga Co., N. Y. He is a very fine horse, and received the first premium at the National Fair, Springfield, Mass., in 1854.

Hair Balls in Cattle—Mortality among the City Cows.

Serious inconvenience and frequently the death of valuable animals result from the formation of hair balls in the stomach. Those of which we shall now speak are peculiar to cattle, and are composed almost entirely of hair. The hair of which these concretions are formed is generally obtained by the habit which cattle and even young calves have of licking each other. Whether this habit results from any natural affection which one animal has for another, or from a fondness for the saline matter that accumulates on the hair from the excretions of the skin we will not now pretend to say, but at all times a small portion of the hair will be loosened and removed by the rough tongue of animals, and particularly at the time of shedding the coat it is freely removed in considerable quantities. This hair being indigestible and possessing the remarkable *felting* or *fulling* properties of wool becomes worked and matted together by the warmth and peculiar

action of the stomach in the process of digestion. When a nucleus is thus formed, successive layers are added to it, as the material is from time to time swallowed, until the ball acquires a solidity and bulk sufficient to impede the functions of nature, when the animal lingers and sometime dies. We have known these balls taken from the stomach of cattle from the size of a hickory nut to that of a mans fist and even larger. Unless they accumulate to a considerable size the effect does not always prove of a very injurious character.

Our attention has been called to this subject by a notice which appeared in one of the Louisville papers some weeks since of the great mortality among the city cows feeding upon the commons. This has occurred before, and undoubtedly arises from the hair gathered by the cows in grazing where the hogs hair has been spread for the purpose of cleaning it by the rains preparatory to its being shipped to market for the use of the upholsterer.

Every fall there are tons of this hair spread

upon the commons near the city, from the pork houses, where it remains for several weeks. The dirt and animal matter including the finer portions of the hair which remain after the main body has been removed is of the most fertilizing character.

The past season has been one of unusual drouth, and in the fall, just previous to the breaking out of this apparent disease among cattle, there were several gentle showers which brought into lively action the sprigging qualities of this deposit from the hair, and the young grass sprung up with renewed vigor and tenderness which attracted the cattle. In cropping the young grass the cows gathered large quantities of the fine hair. From this the grass was separated by digestion, leaving the hair soft and in a proper condition to be worked up into balls. The large quantity thus taken into the stomach was sufficient to clog the organs of digestion and the consequence was inevitable and speedy death.

Two years ago the same fatality occurred among the cows in the eastern part of the city, and we were then requested to call attention to it.—Whether the hair or the cows have the right to the occupancy of the public commons are questions for the city authorities and not for us to answer.

[Written for the Valley Farmer.]

THE HORSE.

The horse was unknown upon the American continent until after his introduction by Europeans, but from time immemorial he has been the pride and the glory of the Eastern courser.

What a beautiful description of this noble animal we have in the book of Job: "Hast thou given the horse strength? hast thou clothed his neck with thunder? Canst thou make him afraid as a grasshopper? The glory of his nostrils is terrible. He paweth in the valley and rejoiceth in his strength; he goeth on to meet the armed men. He mocketh at fear and is not affrighted; neither turneth he back from the sword. The quiver rattleth against him, the glittering spear and the shield. He swalloweth the ground with fierceness and rage; neither believeth he that it is the sound of the trumpet. He saith among the trumpets ha, ha, and he smelleth the battle afar off, the thunder of the captains and the shouting." The sentiment contained in these lines applies most strikingly to the blooded horse of the present day, the horse above all others which is a model of perfection, as it regards symmetry, power, cour-

age and endurance. Who, that saw the veteran Grey Eagle, as he appeared on the Louisville fair ground, in '53, but would think of these poetic lines,

"Mocking at fear—

And amidst the shouts of the admiring throng,
He seemed a juncture of extacy and delight."

What the original type of the horse was in his native state, we are unable to determine, but difference of climate, habits, feeding, breeding and general management, very probably other causes unknown, have produced in the race a great diversity of color, size, form and general characteristics, so much so, that some classes in comparison with the others might almost be taken as distinct species.

It is my purpose in the following lines to treat successively upon some topics of interest connected with the selection of, raising and general management of horses, hoping that some reader may be benefitted by my observations and experience. The policy, indeed the necessities of the West, demand that we should give a more careful attention to this subject than we have ever done before. Called upon, as our horses are, to perform such a variety of labor and under such varied circumstances, we want such animals as are best adapted to our purposes, and to obtain these by a judicious course of breeding, with as little trouble and as much certainty and economy as possible, is a matter of no small importance.

The blooded horse being our model, as combining the fullest degree of power in a given compass, as possessing more compactness in his joints, more elasticity of his muscles, more courage and a far greater degree of strength in accordance with his size than any other class of horses; we must look to him in a great measure for a correction of those defects which are produced in the crossing of the common breeds.

I lay it down as a first principle that without power and endurance (bottom in the language of jockeyism,) the horse, whatever may be his other qualities or attractions is useless. We must therefore test his powers in order to judge of his merits.

It is thought by many that the sports of the Turf ought to be entirely abolished; that in their nature they are productive only of cruelty to animals and debasing to the mind of man. So far as the excitement, gambling and other extremes attendant upon these places of amusement are concerned these remarks are certainly true, but these sports being the test of power in the animal, and thereby enabling us to

judge of his intrinsic worth as a stock getter, these practices are productive of benefit and therefore ought not to be totally discarded. Yet whilst I would not by any means encourage horse racing, I would say that before a horse is recommended as a model of excellence, let him prove himself deservedly so by a reasonable trial of his powers. As the business of the great West is Agriculture, and as the horse is used most extensively in an agricultural capacity, I shall speak first of the animal as best adapted to the wants of the Western farmer.

Picture to yourself reader, a farm of some 200 acres, situated in the midst of a beautiful and fertile prairie. The buildings upon that farm are substantial and good. The dwelling is surrounded by conveniences and comforts. At the farther end of the garden you see a large barn and stable, apparently well filled from the rich acres around. What kind of horses think you shall we find in those stables or in the pastures immediately beyond? What kind of animals ought we to expect? You are ready to answer that you cannot tell, because neatness and order as it respects the arrangements of the farm are no proof that the owner is a lover of fine stock, or that he takes any pride in producing the best varieties.

It costs no more to produce and raise serviceable and profitable animals than those which are inferior and worthless.

Every one then that is engaged in raising stock of any kind should feel it to be his interest to produce such animals as have real value. The farmer's horse must be a horse of all work. In order that he may have strength sufficient to draw a heavy plough from day to day, he must have considerable size, but as he will occasionally be needed as a saddle and also as a buggy horse, he must not be clumsy. We want then a horse about 16 hands high and proportionably heavy. His head and ear comparatively small; eye large and full; nostrils wide; neck well arched and his head nicely set on. His mane and tail tolerably heavy, shoulder moderately straight, chest broad and full, body round, quarters broad, limbs flat and free from blemishes, with a full development of muscle; pasterns rather short and hoofs round. His carriage should be bold and sprightly and his disposition pleasant. These are desirable qualities, but as I design speaking of each part of the body separately, I will pass for the present to some considerations connected with breeding and general management, endeavoring to treat each subject in its appropriate place. H.

The Poultry Yard.

[Written for the Valley Farmer.]

Importance of Keeping Poultry.

BY C. N. BEMENT.

The subject of rearing and keeping of poultry in this country, until within a few years past, has attracted little or no attention; it has ever been considered a luxury, and consequently not raised in such immense quantities as in France, Egypt, and some other countries, where it is used more as a necessary article of food, than as a delicacy for the sick, or as a luxury for the table. In France poultry forms an important part of the live stock of the farmer, and it has been said of that country, that the poultry yards supply a much greater quantity of food than the shambles do. The object of rearing poultry and eggs for market may appear to some but a small concern. Granted; so is that of making pins. It was generally viewed as too insignificant to merit consideration. This is natural. Little things are frequently treated with contempt, although in the aggregate, they assume magnitude surpassing credulity. This is literally so with poultry. Because a fair stock of hens can be bought for four or five dollars, they are regarded as beneath the rank that entitles them even kind treatment, especially if viewed in connexion with expected remuneration. But although the winter stock on a common farm may be estimated at only four dollars, the fair valuation of these fowls in the country, gives them a commercial importance ranging with some of our best products.

There is another important matter connected with this poultry subject, not to be estimated in dollars and cents, but of far more consequence than either. It is the social and moral influence they exert, especially on the junior members of the family. The tenants of the poultry-yard with their youngling broods, are, of all things, what earliest catch and rivet their attention and determine their devotion to rural life. By their withdrawing their thoughts from trifling games, vicious sports and indulgences, or idle, worthless habits, a great point is gained towards developing and maturing the future useful member of society.

And yet there is another consideration to be offered in favor of the poultry yard. Is there nothing in the feathered tribes that dwell there to gratify the eye or the ear of those who watch over and nourish them? Cannot the lover of natural beauty see anything for admiration in the

well rounded breast and the gradually tapering and gracefully curved necks of these well-chosen and well-fed birds? Is there no beauty in their infinitely variegated plumage? Can human art successfully imitate the silky fineness and lustre of their feathers? Where, it may be asked, is there in the broad creation aught so much to admire and delight the eye as in the poultry yard filled with a choice collection of beautiful fowls? And is it possible, with all the dye-stuff in the land or in the sea, for human skill to produce such an assemblage of delicate and brilliant colors, combined and commingled in ten thousand aspects, as are any day displaying themselves in the poultry yard to the gaze and contemplation of their admirers? If the mansion of the farmer is not ornamented like the drawing room of the merchant with costly drapery and tapestry, he may have a poultry yard exhibiting specimens of beauty that would be the envy of princes.

And now we hope to be able to satisfy the reader that the culture of poultry is of much more importance than has generally been imagined; and consequently it should become one of the first objects of attention with every family in the country.

Let it be supposed that there is in this country three millions of families that possess all the conveniences for keeping poultry, more or less. The number is doubtless greater, for there is no animal that breathes in the service of man which has such powers of self-multiplication or productiveness as fowls. Then let it be supposed that to each of the families belong ten hens—a very moderate allowance surely—yet this will make thirty millions for the entire country, which at thirty cents each constitutes an entire investment of nine millions of dollars, or forty millions for both. Again, if each of the stock hens lays on an average twelve dozen of eggs in the year—less than one dozen in four weeks—there will be a product of eggs in the entire country of three hundred and sixty millions of dozens. These eggs are worth at least two dollars for each hen. But allowing one-half to go for feeding them, there will be left a net profit from the eggs of twenty-four millions of dollars annually, making a net profit of sixty millions of dollars, from the combined production of eggs and chickens.

Let this result be placed with some of the leading staples of the country. The value of the flour in the country in 1847 has been set down at one hundred and forty millions of dollars. If one half of this is deducted for cost

of production, and that is not enough, the value of the poultry is worth more to the country than our wheat crop. And taking similar data for comparison, it is worth double our oat crop, double our potato crop, double our cotton crop, and is equal to our crop of hay. Indeed, taking the statistics of our agricultural productions that year, as a guide, there is but one of them that yielded, according to the most favorable calculation, so large a net profit as the poultry. Or, if the poultry did not yield as much as supposed, it is because the poultry-yard is unduly neglected, and its products under estimated. We would, therefore respectfully ask what better occupation, or, rather, what better amusement can the younger members of the family have than to feed and watch over the poultry of a farm? In this way they may clothe themselves and pay for their books and schooling, without interfering with the school expenses or any reasonable labors expected from them in other things.

Connected with every farm establishment there should be a poultry yard. Without it the farm is incomplete as it would be without a piggery. And we see no reason why poultry should not be considered as a species of agricultural stock, and turned to as good account for both producers and consumers. Indeed, every family in the country, although not devoted to agriculture, should have one. For the mechanic it is important, so it is to the professional man, and to the merchant. No direction or rule can be given as to the size of it, whether it shall contain ten hens or fifty. If it is partly designed to produce poultry for market, it may of course, be proportioned to the demand there is for the products. If these products are wanted for home consumption only, the size of the family should regulate the size of the poultry house and yard, and the number of the feathered tenants. One-fourth of an acre is quite small enough for one hundred fowls. These are matters all can decide for themselves. What might be expedient for one family would be inappropriate to others. Some, too, are excessively fond of eggs; others care less about them. The same is true in regard to the flesh of poultry: This also, will have its influence. More eggs, therefore, and a much larger number of fowls of a better description, ought to be ultimately producible, and this improvement should act on the markets of the country.

The consumers of poultry are very numerous, and but for the unnecessary high price would be very much increased. Chickens often selling in the New York market, at certain seasons of the year, not weighing much, if any, over one pound each, for seventy five cents the couple.

Every one, therefore, who directs his thoughts to the subject, will at once acknowledge that poultry are just as profitable as any single article of produce, whether animal or vegetable, according to the capital invested, and to the expense and labor of production, on the farm.

Poughkeepsie, Jan., 1837.

The Apiary.

[Written for the Valley Farmer.]

MANAGEMENT OF BEES.

BY E. LINK, GREENVILLE, TENN.

The product of the bee in the United States is shown by the last Census report to be in value for the year 1849, \$2,376,606, which amount exceeds in value the clover seed made, by \$31,716, and over values the flax seed, grass seed, wine and silk cocoons by over a quarter million dollars. Yet all this delightful luxury was the proceeds of less outlay of capital and labor, than the same value produced by any other investment whatever. The production of honey is alike adapted to the business of the farmer, mechanic or professional man, whether a citizen of town or country, with but little outlay in expense and a degree of attention scarcely one remove from amusement. If all this be so, is it not a somewhat strange oversight in the operations of so very many that they give none, or a very slipshod attention at most to the raising of bees, which gathering the sweetest products of nature for their owner, at the same time furnish the most cheerful incentives to industry. The bee-moth is the great enemy of the bee, and doubtless the leading obstacle that has deterred so many from having bees to occupy, and as they should do, embellish their grounds. The objection regarding this consideration is needless, as I have demonstrated by fifteen years of somewhat watchful experience and satisfactory success. I propose to say something on the subject of practical management which cannot fail to be equally satisfactory to others who may adopt it. I shall confine myself solely to practical directions, the utility of which having demonstrated, I deem of far more importance than spun out theories, which, whether true or not, do not so fully meet the wants of those whose main desire is gratified with a prosperous stock of bees and plenty of the nicest honey for the table—these ends attained the “mysteries” are to most of us of comparatively light importance.

Let the hives be made with bottoms sloping from front to back, rather over than under forty five degrees. My most usual size are made of plank twelve inches wide. The front piece about 24 inches long; the back piece 16 inches. This allows the side pieces to be sawed sloping, the front edge of which, should be at least three inches longer than the front plank. The bottom should project in front about three inches

for the bees to light upon and must be bevelled so as to fit close against the inside of the back piece, and is held in its place by a nail in each edge driven through the sides of the hive near the back part, which nails also serve as pivots or hinges to let the bottom open down in front to hive the bees and for other purposes. It is also held to the proper place in front by a moveable nail. Light strips may be nailed on the back edge of the side pieces long enough for feet for the sloping hive to stand upon while hiving the swarm. It is very important that the hive should be made of solid, well seasoned stuff, with close joints and dressed smooth; the bottom should especially be of hard, smooth wood, well fitted. I use caps on all my hives at most times, and find it most convenient to make the head of the hive in two pieces. The first about four and a half inches wide which is nailed on the front side of the head not to be removed, then saw out of it a block the full width of the piece, five or six inches long, for the bees to pass into the cap, for they will very rarely go into a cap through a small hole. By holding the saw mitering, the block will close the hole when there is no cap on the hive. The block with the hive should be numbered to be readily found when wanted. The other and wider head piece is sufficient to take off when the hive is robbed, for I take it for granted that no one now so nearly imitates the owner of the goose that layed the golden egg as to follow the practice once so common, of killing their bees when they wanted honey.

Nail cleats on the sides of the hives, about, or a little above the middle, by which to suspend them in a frame, instead of setting them on that most intolerable nuisance, a “bee-bench,” between which and the hives the miller finds a most desirable deposit for her eggs, and from which the worms readily ascend and re-ascend after being thrown down by the bees, instead of being rolled out on the ground. I have seen them roll many out that they could not have got rid of on a level surface. Aside from the worms, there is always an accumulation of dampness and filth got clear of by the bees, in hives thus arranged. Frames to hold from six to ten are easily made with scantling, letting the upright pieces at the corners extend up for a covering, and when tastefully arranged on convenient and different parts of grounds with the hives and caps painted in various lively colors, form quite an ornament instead of an incumbrance.

[TO BE CONTINUED.]



Horticultural Department.

APPLES FOR WESTERN CULTIVATION.

In our March number for 1856 we gave a list of fruits, including apples, peaches, pears and plums, that after a considerable experience in their cultivation, had proved the best adapted to the meridian of Kentucky and Missouri.

Since the date of that publication, our readers have greatly multiplied, and in receiving subscriptions for the present volume of the Valley Farmer, we have been again and again requested to publish a list of fruits, particularly apples, both for market and for a family orchard suited to this section of the West. We do not know that the experience of the past year has enabled us to materially improve the list already published; there are, however, many summer and fall apples that are equally as good as some we included in our list, and some that the fancy of others might lead them to prefer, but our list of standard winter apples embrace a less number of varieties upon which the public more generally agree.

The American Pomological Society, which holds its sessions biennially, is doing much to spread abroad a knowledge of fruits best suited for general cultivation, and for particular localities. The Western fruit growers, however, have not done justice to our section of the country at the meetings of this society. That department of horticulture is much better understood and practiced in the older eastern States, and the fruits from that section of the Union have been more generally represented and their merits more fully discussed than those better suited to Western cultivation, many of which are inferior to none of any country. At the meeting of the society held last September, in Rochester, N. Y., the West, particularly the North-west, was better represented than on any former occasion, and many of the delegates took a very active part in the discussions on the

various fruits brought before the convention. From these discussions (which we are now publishing) fruit growers of different localities may learn much that will be of interest to them in the selection of fruits for their particular localities. As our paper circulates widely, both north and south, we propose to publish the list of apples recommended for general cultivation by the American Pomological Society, including the names of the States in which particular varieties are best adapted. Also the list of apples recommended for Ohio, at the sixth session of the Ohio State Pomological Society, held in Columbus in December, 1854, which will be followed by a list suited to the meridian in which we write, with such remarks upon any variety that our experience may suggest.

APPLES RECOMMENDED BY THE AMERICAN POMOLOGICAL SOCIETY.

Baldwin.—New York, Delaware, Vermont, New Hampshire, Maine, Ohio, Missouri, Illinois.

Roxbury Russet.—New York, New Jersey, Vermont, Maine, Michigan, Ohio, Missouri, Indiana, Illinois.

Northern Spy.—New York, New Jersey, Vermont, Maine.

Rhode Island Greening.—New York, Pennsylvania, New Jersey, Vermont, Maine, Michigan, Iowa, Ohio, Indiana, Illinois.

Esopus Spitzenberg.—New York, Pennsylvania, Vermont, New Hampshire, Michigan, Ohio, Missouri, Illinois.

Early Harvest.—New York, Pennsylvania, New Jersey, Vermont, New Hampshire, Delaware, Virginia, Ohio, Indiana, Illinois, Missouri, Iowa, Michigan.

Sweet Bough.—New York, New Hampshire, New Jersey, Pennsylvania, Delaware, Virginia, Ohio, Indiana, Illinois, Missouri.

Summer Rose.—New York, New Jersey, Pennsylvania, Delaware, Ohio, Illinois, Missouri.

Fall Pippin.—New York, New Jersey, Pennsylvania, Virginia, Ohio, Illinois, Michigan, Missouri.

Belmont.—New York, Michigan, Ohio.

Hubbardson's None Such.—New York, New Jersey, Vermont, Massachusetts, Maine.

Golden Sweet.—New York, Maine, Missouri.

Red Astrachan.—New York, Vermont, New Hampshire, Maine, Ohio, Illinois, Missouri.

Jonathan.—New York, Ohio, Missouri.

Early Strawberry.—New York, Pennsylvania, Ohio.

Danvers Winter Sweet.—New York, Delaware, Vermont, Massachusetts, Maine, Ohio.

William's Favorite—New York, New Hampshire, Maine.

American Summer Pearmain—New York, Delaware, Illinois.

Summer Queen—New York, Pennsylvania, Michigan, Ohio, Indiana, Illinois, Missouri.

Maiden's Blush—New York, New Jersey, Delaware, Ohio, Indiana, Illinois, Missouri.

Porter—New York, New Hampshire, Massachusetts, Maine, Ohio, Missouri.

Gravenstein—New York, New Jersey, Vermont, New Hampshire, Maine, Ohio.

Vandevere—New York, Maine, Indiana, Illinois, Missouri.

Yellow Bellflower—New York, New Jersey, Pennsylvania, Delaware, Virginia, Vermont, Ohio, Indiana, Illinois, Missouri.

Fameuse—New York, New Jersey, Massachusetts, Vermont, Maine, Illinois.

Newtown Pippin—New York, New Jersey, Delaware, Virginia, Michigan, Ohio, Indiana, Illinois, Missouri.

Rambo—New York, Pennsylvania, Delaware, Michigan, Ohio, Indiana, Illinois, Missouri, Iowa.

Smoke House—Pennsylvania, Delaware, Virginia, Indiana.

Fallenwalder—Pennsylvania, Delaware, Ohio.

Golden Russett—Pennsylvania, New Hampshire, Ohio, Illinois.

Wine Sap—New Jersey, Pennsylvania, Delaware, Ohio, Illinois.

White Bellflower—Pennsylvania, Illinois, Missouri.

Fall Pippin—Michigan, Missouri, Indiana.

Rawles' Janet—Virginia, Illinois, Iowa.

Lady Apple—Delaware, Ohio, Missouri.

At the last session of the Society, some additions and modifications were made to this list, which will appear in our report of the discussions. It will be observed that Kentucky and other Western States are not embraced in this list, and for the only reason that their claims were not represented.

LIST OF APPLES ADOPTED BY THE OHIO STATE
POMOLOGICAL SOCIETY, FOR GENERAL
CULTIVATION.

Early Harvest, Early Strawberry, Large Yellow Bough or Sweet Bough, American Summer Pearmain, Golden Sweet, Maiden's Blush, Fall Pippin, Cooper, Rambo, American Golden Russett, Yellow Bellflower, White Bellflower, Newtown Spitzenberg, Wine Sap, Talman's Sweeting, Roxbury Russett, Newtown Pippin, Rawles Janet.

LIST OF APPLES FOR KENTUCKY, MISSOURI AND
NEIGHBORING STATES.

(Arranged in the order of their ripening.)

- | | |
|----------------------|-------------------------|
| 1. Early Harvest, | 7. Fall Pippin, |
| 2. Summer Rose, | 8. Maiden's Blush, |
| 3. Black's Annett, | 9. Yellow Bellflower, |
| 4. Am. Sum. Pearmain | 10. Jonathan, |
| 5. Bohannon, | 11. Yellow Newt. Pippin |
| 6. Rambo, | 12. Pryor's Red, |
| | 13. Rawle's Janet. |

REMARKS UPON THE VARIETIES.—No. 1 is the best early market apple we have. No. 3, (local name) a good, productive and profitable apple for market. No. 4, the best of all summer apples; not so attracting in appearance as some others for market. No. 5, (local name) long in season; good market fruit. No. 8, handsome and productive for market. No. 9, well known as superior in the West. No. 10, most beautiful and very superior; size above that in its native locality, though not above medium. No. 11, best of all winter apples, suited only to eastern localities, on dry, strong soil, requiring good care and cultivation. No. 12, once the most popular apple in the Ohio Valley; lately subject to leaf blight. No. 13, not so highly flavored as some, but may be regarded as among the most popular apples. It seldom fails to produce a crop, when all other varieties are cut off by the spring frosts. The tendency of the trees is to over bear. To insure good, large fruit, it should be thinned while small by cutting out small branches, or picking it off by hand.

To the above may be added:

1. Summer Queen,
3. Striped Winter Pearmain,
2. Pennsylvania Red Streak,
4. Am. Golden Russett,
5. Broadwell.

No. 4 is a small fruit but very excellent. No. 5, a good, sweet winter apple; size uniform, from medium to large.

The *Carolina* and *New York Pippin*, are profitable market apples, being handsome, hardy and productive. The former is not even third rate, except for cooking. The latter is not known in the books, but has many admirers where it is known. They keep well, sell well, and bear rough handling.

Every cultivator may know of certain other kinds worthy of cultivation and well adapted to his location which may be added to the above.

In our March number we will furnish a list of peaches which have proved good with us.

FRUIT CULTURE.

We have been requested by a number of Western farmers to devote considerable attention to the culture of fruit and furnish a continued series of instruction for the management of the orchard in all respects during the coming year.

We will endeavor as far as possible in connection with other duties to comply with these requests.

We are pleased to see so much interest awakened upon the subject of fruit growing in every section of the country. It is a branch of horticulture that has been so long neglected that fruit of every kind in our market is extremely dear.

We have prepared for publication the discussions held at the Am. Pom. Convention in Rochester last fall, and have condensed the whole so far as possible, in order to find room for it, yet it will occupy a considerable space through several numbers of the Farmer; so much that we were almost inclined to lay it over, and yet it embodies so much valuable information from so large a number of the most distinguished fruit growers from every section of the country, which can be obtained in no other form, that we shall try to publish portions from time to time as we may find room, until we complete it.

Fruit Growing in California and Oregon.

There is something truly astonishing in the capacity of the soil and climate of the Pacific side of the continent for the production of fruit, notwithstanding rain seldom falls for several months during the growing season. There must be something extremely peculiar in the character of the soil to sustain vegetation under such circumstances. Not only is the growth of various fruits extraordinary there, but everything of the vegetable kind suited to that climate grows with wonderful luxuriance and to great size. Not long since Mr. Denny of Boston, received by express from his friend in Oregon an apple measuring 18 inches in circumference, and weighed 21 lbs. 5 1-2 ounces. The tree upon which it grew was set out in 1841, and was then two years old from the seed. In four years from the time of planting it bore 8 apples; in 1856 it had 60 apples, 12 of which weighed upwards of 2 pounds each. Some of the apples were two inches in diameter larger than the trunk of the tree.

A late number of the Oregon Times states that \$75,000 worth of apples will be shipped to California this season. The same paper says: "We saw a bushel of pippins the other day, which averaged 18 ounces each, six bushels

were gathered from one young tree. Quince and Pears also grow in abundance."

In California fruit grows equally well, but the large number of inhabitants there afford a market for all that is grown there, as well as all that is grown in Oregon.

[Written for the Valley Farmer.]

THE BEST COOKING APPLES.

EDS. VALLEY FARMER.—Permit me, in behalf of "suffering humanity," to thank you for the benefits you are conferring upon the public by the diffusion of intelligence in regard to fruits and fruit culture, adapted to the South-western portion of our widely extended country.

The people of central and southern Ohio, in common with those more immediately within the sphere of your influence, are now suffering great loss by having heretofore obtained their ideas about fruits almost exclusively from Eastern books and catalogues, and their fruit trees mostly from Eastern nurseries. The consequence is, a majority of the orchards now in bearing, are composed of varieties of fruit not adapted to the soil and climate, and in many cases of no value whatever; although, perhaps of the highest excellence in more Northern and Eastern localities. In fact, there are almost none of the leading kinds of winter apples of New York and New England worth cultivating in this region, and yet we find each season, the whole country canvassed by agents or pedlars, making sales of trees from eastern nurseries, and assuring the unsophisticated farmers that the varieties are superior to those of the nurseries near home!

But my object in writing at this time is to elicit information through your columns in regard to the best selection of apples for cooking purposes, adapted to the South-west, and for different seasons of the year. I am fully convinced that in every "well regulated family" apples cooked in various ways, might be made a considerable portion of the daily food throughout the entire year, and that too with great advantage on the score of health and economy of expense. For the promotion of this end, more attention must be given to the selection and culture of the best cooking apples; for as far as my knowledge extends I do not know of a single orchard that is really well provided in this respect.

The *Kenwick Codlin* is perhaps the best early cooking apple, and remains fit for use a long time, but though an old variety it is very little known, because it is not showy, or esteemed for

eating raw. Next in season come the Red Astrachan, Summer Queen and Early Pennock, all good cooking varieties, but rather too acid for economy in these times of dear sugar. Then follow the Gravenstein, and best of all, the Fall Pippin. This last may be used for cooking some time before ripe, and with a little care may be preserved until the "mince pies" are made for Christmas. These are all sour or "tart" apples, such as are desired for stewing and for pies, dumplings, &c., and as far as I have learned, are adapted to all parts of the country, though in some localities the Fall Pippin drops from the tree rather prematurely, and is not a very good bearer. Of course, most families will desire a few sweet apples for variety, especially for baking. The *Sweet Boagh*, *Golden Sweeting*, and several others, may be used for this purpose.

The *Rhode Island Greening* among winter apples deserves to be placed at the head of the list for cooking, but unfortunately, like the Baldwin, Spitzenberg and most others of high repute at the North, it will not adapt itself strictly to our soil and climate. I am frequently asked what apple I would recommend as a substitute for it, as a cooking apple in winter, and I am free to confess that I know of none that I consider at all equal to it in all respects for cooking purposes. The *Roxbury Russett* is perhaps nearest like it, but this also, is quite unreliable in the South West. In fact my chief object in writing this article, is to request readers of the *Farmer* who have tested numerous varieties and consulted their wives on the subject to inform the public what kinds of winter apples they consider best for cooking, or nearest like the R. I. Greening and adapted to the South and West.

The *Yellow Bellflower* approaches nearer the standard, than any other I have as yet tested; but the tree is a poor grower, and not a certain bearer, nor adapted to all localities. The Newtown Pippin, Rawle's Janette and Pryor's Red, are watery and deficient in flavor when cooked. The Rome Beauty, the Fallenwalder and Pennock, are large and showy, and quite fair for cooking, but not first rate. The *Wine Sap* excels in flavor and is a great bearer, but deficient in size. As a sweet baking apple, I have found not one that would at all compare with the *Talman Sweeting*—it flourishes well here and bears abundantly. Has it been fairly tested in Kentucky or Missouri?

M. B. BATEHAM.

Columbus, O., Nursery, Jan. 20, 1857.

We thank our friend Bateham, for his timely

hints and suggestions and hope our Western readers will give us the benefit of their experience in the way of "cooking apples." Mr. B's remarks are a confirmation of what we have incidentally said in making up our list of apples suited to this locality. In that list we have added none particularly for their cooking qualities.—Esa. V. F.

American Pomological Convention.

PEARS CONTINUED.

Kirtland.—The President had found it fine. Dr. Brinckle recommended it for general cultivation. Mr. Hodge was well pleased with it, but was not prepared to recommend it for general cultivation. Mr. Reid had it in bearing for several years and said it should be gathered early, but if allowed to remain on the tree a little too long, it becomes mealy. Mr. Ernst and Mr. Hovey thought it was not sufficiently known to warrant recommending it for general cultivation. Mr. Hooker found it liable to rot at the core. Dr. Brinckle withdrew his motion to recommend it for general cultivation.

Lodge.—Mr. Walker thought this one of the best pears, equal if not superior to the Brown Bourne. It has an abundance of juice and possesses all the qualifications of a first rate pear. Mr. Walker thinks it should be spread over the length and breadth of our land. If it was not a native sort we should be willing to pay any price for it. Mr. Reid said it was good, but was liable to rot at the core. Mr. John J. Thomas said it was not as good in Western New York as in Philadelphia. Mr. Berkman of N. J. said it was of excellent quality but rots badly. The President remarked that many varieties of pear rot in New Jersey, that in Boston, where they ripen later, are not subject to this fault.

Onandaga.—Mr. Field thought this pear should be recommended for general cultivation. Mr. Ernst said that he had formerly thought well of it, but would now propose to strike it from the list altogether, owing to some change it had become worthless. Mr. Hodge thought it had deteriorated of late years. Mr. Saul had, after fruiting it a number of years, never seen a good specimen. Mr. Reid thought with him it was improving. Mr. Downing said it was very valuable.

Sheldon.—Mr. Hooker said it originated in his neighborhood and he considered it one of the best pears grown and would like to know what friends in the east thought of it. Mr. Hovey said he had fruited it six years, it was one of the best, at the head of our native pears and no foreign variety superior to it. It bears young, produces large crops, and the tree is a good grower, considers it the best pear in America. Mr. H. E. Hooker thought the same of it and so thought Mr. Barry. Mr. J. J. Thomas had a high opinion of it. Adopted for general cultivation.

St. Michael Archangel.—Mr. Hovey thought it one of the best pears we have.

[TO BE CONTINUED.]

The Home Circle.

ESSAYS ON HEALTH—No. 8.

THE LUNGS.

There are five leading organs, or systems of organs in the human body, greatly under the control of their possessor, and which regulate in a great measure, the health and strength of the system. These are the lungs, the stomach, the muscles, the skin and the brain. None is more important than the lungs. They fill the cavity in the upper part of the chest; are composed of an apparently spongy substance, filled with tubes or artery like air ducts, which convey the air inhaled at every breath to their every part. They are in constant relationship and action with the heart, and perform the great office of vitalising and warming the whole system. It is their office to give strength and longevity. Large lunged men and women, other things favorable, are strong and long lived. Broad shoulders and a deep chest indicate large lungs, as well as great strength and power to live. They oxygenate—give the life principle to every drop of blood and re-supply it as fast as it is wanted. The lungs then must be kept healthy by a full supply of pure air, and full opportunity to act freely. Pure air is their first requirement, air free from dust, vapor, miasma, foreign gasses, smoke, stench and the dust of the road or street, the floor in sweeping, threshing operations, many kinds of mechanical operations, factories, &c., are very injurious and should be avoided by every one wishing to preserve or secure health. Too great pains cannot be taken in this respect. A veil or handkerchief tied over one's mouth and nose, is a very good guard against dust, when one must be in it. Something of the kind is a wise precaution. All kinds of noxious air, bad vapors, stenches, confined air, &c., should be avoided. Sitting rooms, sleeping rooms, cellars, closets, entire houses should be well ventilated. It is suicidal to live in close, ill-ventilated houses. Dwellings should be built in dry, airy places and every room have a free ingress and egress for a plenty of pure air. There cannot be safety without it. Open chimneys are always desirable. Air-tight stoves are seriously objectionable. Let every human being live without money, without luxury, without every physical comfort, rather than give up the pure, free air. Health, strength, beauty, the elastic step and the buoyant spirit are all in it. It is one great evil of our civilization that we corrupt the air

we breathe and thus weaken and degenerate our physical systems.

Again the lungs require freedom and they must have it or fail to supply the blood with its needed vitality. Tight waists, vests, coats, cords around the chest are instruments of death. Around men or women they are alike evil, but especially around women who require the full force of their lungs to give full vitality to themselves and their offspring. Volumes ought to be written for the freedom of the lungs. Speeches, meetings, conventions, sermons ought to be had in behalf of the suffering lungs of humanity. The philanthropy of the age ought to be directed to the imprisoned victims of human ignorance, fashion and folly. We can only hint at what ought to be written on this subject.

FEBRUARY.—A Fragment.

Time lingers on his wintry throne,
And earth still keeps a heart of stone—
Still robes of snow clothe hill and plain,
And fountains wear their icy chain,
While wand'ring from their mountain caves,
The fierce, wild wind of north-land raves,
Through leafless woods that darkly lie,
Like crayon tracery 'gainst the sky,
As sunless, lifeless in its gloom,
As tho' earth were one mighty tomb,
And its dark dome its monument.

HETTIE HAYFIELD.

HOW TO BE HAPPY.

Everybody wants to know how to be happy. Happiness is the great aim of us all. There are many things that tend to make us happy, but most of all a well-regulated home. It is not in the power of the husband, the wife or the child alone to regulate home as it should be. The efforts and co-operation of all are needed. But most depends upon the wife. Her time, labors and interest are at home. If she does her part well home will have many attractions and do much to make its inmates happy.

1st. Order. A home should be orderly. It should have an order of time, of place, of conduct. In this order of time a regular hour should be observed for rising, retiring, eating; for every part of the household work, washing, ironing, mending, house-cleaning, sweeping, dusting, chamber-work, &c. In the order there should always be a time for reading, recreation and religious exercises, for general affectionate communion.

In order of place there should be a place for everything and everything in its place. This makes a house look well, convenient, agreeable and easily managed. It prevents confusions, preserves articles from unnecessary destruction, keeps them ready for use and where they can be

found, saves much time and more vexation. It gives a home like characteristic which is always agreeable.

In the order of conduct, there should be courtesy, true home-politeness, an agreeable way of doing and saying everything. Men should be moral, women should be womanly, children drea should be taught civility, obedience, and general good behavior. Each one should be respected in his or her duties and assisted so far as may be. Kind words are the only ones that become home. Obliging manners are the only ones that adorn home. Good deeds are the only ones that bless home. A woman may fret and scold anywhere else rather than at home. A man may complain, play the tyrant, be careless, disobliging, hateful and profane, anywhere else better than at home. Whatever pertains to the order of good conduct should be strictly observed. A house thus in order, a home thus managed, will help more to make its inmates happy, than the gayest apparel, the greatest wealth, the finest display that mortals can make.

Written for the Valley Farmer.

HINTS TO HOUSEKEEPERS.

The short meats of the hog killing have now been mostly used. Western farmers, by way of economy and variety, about this time kill their beoves. It is likewise the general custom of such gentry, to place the meat house and its stores in the care of their *helpmeets*. Remembering the dismay with which we entered on our first service in this department, we submit a chapter on Beef, trusting it may be a grateful contribution to the wives of our enterprising young farmers; although it may have but the value of waste paper to the initiated and notable.

We will compliment the lord of the manor with the presumption that a beef of just maturity, well fattened and nicely butchered, has been provided. If so, the outside will be covered with an inch thick coat of fat, white as cleanest wool; the flesh smooth grained, light red, and tender to the touch. And now while the "gude mon" or some experienced hand proceeds (not with the old axe and kitchen knife but with cleaver and saw and proper blade) to cut up the carcass into smooth presentable pieces, we will go with the young mistress and the maid of all work, or many maids of work, to care for what is loosely termed the offal, something that, with us, is frequently thrown to the dogs, but will be found on the tables of high

life constituting an indispensable part of their luxuries.

The Gall should be emptied into a clean bottle. It is a good application for bruises, cuts, or sores. A spoonful put into a bucket of water in which clothing of fading colors can be wet, will set the dye permanently.

Rennet.—This is the beef's stomach; it should be emptied, washed clean, in cold water, wiped dry, covered with salt, and stretched on sticks to dry, in a cool place; or, after salting, rolled up, wrapped securely in a cloth and hung up in a dry, cool place, ready for cheese making.

The Liver and Kidneys are used for boiling, frying or stewing. The liver can be sliced off as needed. The kidneys should be split and soaked in salt water an hour or so before cooking.

The Heart.—The ventricles should be removed—it should then be thrown into water for a night; after which it may be stewed or stuffed and roasted as a fowl, or prepared with the tongue, either for mince meat, or smoked with the tongue and used as a relish.

The Tongue should be washed clean and wiped dry, then to one pint of salt add one teaspoonfull of salt-petre, one tablespoonfull of cloves or alspice, two table spoonfull of brown sugar; rub the tongue (and heart if desired) well with this every morning for a week, and smoke afterwards incessantly for a couple of weeks more. Both tongue and heart may be dropped into the barrel of pickled beef for ten days, and afterwards well smoked.

Feet should not be skinned, but having the hoofs removed, be scalded and scraped perfectly free from hair; they may then be washed and soaked in spring water for a day or two, if designed for jelly; but if to be used otherwise they can be kept in salt water, changing it frequently.

Tripe.—The tripe should be cut open while warm, emptied, washed and spread out so that strong lime may be sprinkled over its inner coat thickly. After a few minutes, the slimy inner coating may be easily scraped off with the back of a knife. The tripe should then be washed repeatedly, and put into moderate salt water until wanted for cooking. If convenient, soak it for a day and night in buttermilk, and then for the same space of time in fresh water before cooking.

Suet.—Reserve as much of this as you wish for cooking purposes. Wrap it in a clean cloth and keep it in your meal tub. It is shred fine and free from strings, and used for some kinds

of pastry—it is sometimes substituted for lard or butter in biscuit, and makes an excellent pudding. The rest is rendered up into tallow. Cut it into small, thin pieces, and having put a few ladles of melted tallow into the bottom of a clean, large kettle, stew it moderately until the cracknels are brown and mash easily. When cool, strain it at once into vessels to mould, or into a keg for market. If for home use, at any convenient time put your tallow into a kettle which will allow of your putting in it a sufficient quantity of weak ley, in which it should be boiled for an hour—when cold it will cake on the surface, and should be cut out in cakes, scraped free from sediment, and when ready to mould stewed until it ceases to snap.

One lb. of alum and 1 lb. of saltpeter dissolved in 6 gallons of water, will cleanse tallow by boiling it in the water for an hour.

The cracknels boiled in moderate ley, will yield some tallow worth saving, if they are not needed for soap grease. The ley process is best for bleaching tallow.

Pomatum is made by rendering beef marrow into clear grease and straining it; then mix 1 ounce of marrow, 1 gill of oil of almonds, and any agreeable perfume.

Bologna Sausage, may be made of any good, lean parts of the beef. Chop 4 lbs. of lean beef, 2 lbs. of fresh, lean pork, 2 lbs. of suet, well; free from lumps or strings and mix thoroughly. Season with 2 ounces of salt and as much powdered pepper and cloves as suits your palate. Stuff them in beef skins, nicely prepared; drop them into the pickle barrel for two weeks, and then smoke them well. These are used with or without cooking, and are a very common resource for travelers who have to be their own commissaries. Sausages made of beef only, prepared just as pork sausages, form an excellent variety for family use.

Beef Pickle.—To each gallon of water allow 1 1-2 lbs. of salt, 1-2 lb. of brown sugar or molasses, 1-2 ounce of saltpeter. Boil and skim until it ceases to throw up scum. When cold, pour it over your beef and place a weight on the beef to keep it under the pickle. Boil this pickle over once a month, adding a small quantity of salt and a little sugar, and return it cold over the beef, and you may have pickled beef the whole year without fault.

And now the body of the beef being ready to dispose of, it will not be amiss to remind our young friends that salt is *desirable only as seasoning*,—that if used to *preserve* meat it but impairs the flavor of what is used as fresh meat,

if used in the least excess. While your beef is frozen, or the thermometer ranges near the freezing point, there is no danger of losing it if not salted at all. The soup pieces and steak should not be salted at all before cooking. The roasting pieces, the day before being used, should be rubbed with salt sufficient to season them, as you would a fowl. If your meat is rozen it must be laid in fresh spring water long enough to thaw it thoroughly before cooking.

The Head, Tail, Shanks and Neck, are usually used for soup. To those whose habits require soup and fine sauces frequently, it is a good practice to make up these parts into soup-stock, as directed in cook books, and put it up in jars or cans, carefully excluding the air. It can then, on short notice, be served up as plain beef soup, or used as the foundation for any of the fine soups, or sauces of which it is the foundation.

Steaks, are best kept in ice in summer, but for any length of time in cold weather and for three or four days in winter, they may be kept by packing in some vessels about six inches of meal or flour, then spread on a cloth or paper—cover them with a cloth and pack on another layer of meal, and so on until all are put in. The pieces should not be nearer the sides of the vessel than four inches.

Roasts.—The sirloins (which may be kept whole or divided into two or three pieces) and the middle and fore ribs are the choicest pieces for roasting.

The Round is dressed a-la-mode a grand dinner or party dish. It is sometimes used for steak. It may be corned, and is the part used for chip beef. When used for that purpose it should be cut lengthwise into four pieces,—rubbed every morning for two weeks with the preparation directed for smoked tongue, and then smoked briskly for a month; or it may be dropped into the pickle for two weeks and then smoked.

The remainder of the beef, if not kept fresh for use, as it may be now, for roasting or stewing, is usually pickled or corned. For either purpose it should be soaked a half a day, wiped dry, sprinkled lightly with saltpeter and laid on a shelf to drain for twenty-four hours. That designed for pickle may then be put in as directed; that for corning should be well rubbed with salt and kept in a cool place.

A half hour is usually allowed to each pound of beef for cooking. But tough beef and bad fires set all rules at defiance.

HETTIE HAYFIELD.

Editor's Table.

The Second Annual Fair for the Mississippi Valley.

The next great Fair for the Mississippi Valley will be held by the St. Louis Agricultural and Mechanical Association at St. Louis on the 4th Monday of Sept. The time fixed thus early to prevent conflict with other Associations.

Thanks to our Friends.

We acknowledge our obligations, and tender our most grateful thanks to numerous friends who have taken upon themselves the pleasure, we will say, of greatly extending the circulation of the Valley Farmer. In many instances where last year we had but a single subscriber, their numbers have been greatly multiplied, through the voluntary agency of the friends to the *great cause of Agriculture*. This shows what might be done if every subscriber would lend his aid with the view to still further extend its circulation. It has been truly said, that "he who causes two blades of grass to grow where but one grew before is a benefactor to his race," and we do not know in what way this can be more surely accomplished than in the wide circulation of our periodical. The numerous highly complimentary letters that we are daily receiving, speaking of its character and usefulness, begin to make us believe that it is a work of merit, and one that every western farmer should read. We hope then, that each of its present readers will deem it a duty he owes his neighbors to present its claims to them and secure their subscriptions. We will send specimen numbers to any who request them.

More Fine Stock for Missouri.

We noticed at the depot in this city, (Louisville,) ten head of thorough bred Durhams—five bulls and five cows—some of them of superior excellence, on their way to St. Louis. They were from some of the best herds in the State and by noted bulls, one a fine bull, by the imported bull, Senator, another Genl. Scott, 2nd., by Genl. Scott. Among the cows we noticed a very superior heifer 14 months old raised by Richard Allen, of Fayette Co., got by the celebrated bull President.

The stock is owned by Messrs Mitchell and Tomlinson, of Mercer county, Ky. We are pleased to see good stock going West. We have urged the importance of improvement in that line on the rich prairies of the West.

BACK NUMBERS.—We have printed a large extra edition for January and February, so as to be able to supply all new subscribers with all the numbers of the volume. We would advise those, however, who contemplate subscribing, to do soon, as the increase in our subscription list up to this time has already far exceeded our expectations.

WORTHY OF IMITATION.—We cut the following notice from the "Glasgow (Ky.) Journal." If all our exchanges would make a similar offer, we have no doubt they would do themselves, their readers and us great service:

"We have received the January number of the "Valley Farmer," as we have before said, the best agricultural monthly in circulation in this section of country. We will just remind our friends that we are offering to give the "Farmer," as an award for a club of five subscribers.

FRUIT PROSPECTS.—Up to this time the prospects for an abundant crop of fruit the coming season, are unusually favorable. The past dry summer and fall had the tendency to mature the young wood of the trees and the gradually increasing cold weather has kept the fruit buds in a perfectly dormant state, and although the temperature in some localities has fallen several degrees below zero, yet the condition of the buds will enable them to withstand, unharmed, still greater degrees of cold. We think the greatest danger is now passed, and we hope with confidence for a rich harvest of most kinds of fruits.

We have received numerous solicitations to prepare an article on the cultivation, &c., of the Chinese Sugar Cane, and we promise our readers that the article shall be forth coming in our March number. We had it in cultivation last year and know something about it from practical experience.

SEED AND SEEDING.—Our readers may expect a valuable article on this subject next month.

PLEASE REMEMBER.—Many who send us clubs desire to know whether they can add to the lists already sent at club rates? Certainly they can—and the more the better. Some of our subscribers also desire to know whether they can form a club to be sent to different Post Offices at club rates. This is a privilege we have allowed. So send on the names.

Arthur's Home Magazine for February.

There are twenty illustrations in this number, including Steel Engraving, and a Fashion Plate colored with charming effect. These colored Fashion Plates, which are equal to any that appear in the higher-priced Magazines, will be given in every number. Miss Townsend's new novelette, "Look Out; a New England Story," is deepening in interest, and bids fair to prove one of the most absorbing Magazine Stories that has yet appeared.

It is the intention of the publishers to make the Home Magazine one of the most attractive in the country; and yet keep the price so low as to be in the reach of every household.

The terms are \$2 a year, or only \$1.25 a copy, where four persons take it in a club together. It is for sale in all periodical stores throughout the United States. Published by T. S. Arthur & Co., No. 103 Walnut street, Philadelphia.

THE FARM JOURNAL AND PROGRESSIVE FARMER.—Samuel Emelen & Co., Publishers, Philadelphia, Penn.

We acknowledge the receipt of the sixth volume of this standard Agricultural Journal. Its editorials display much ability, and it is one of the best printed of our agricultural exchanges. It is edited by David A. Wells and A. M. Spangler. We can recommend this journal with confidence to our readers. Terms one dollar a year. Address the publishers.

Sewing Machines.

We have not leisure to reply to all who apply to us for information relative to Sewing machines, but we can refer our correspondents with confidence to the certificates upon page 62 of this number. We have good reason, also, to believe Mr. Dean, the agent for Singer's Sewing Machines, to be perfectly responsible for all that his advertisement promises.

Tobacco Growing in New York.

It is stated in an exchange that three hundred tons of tobacco have been grown in the Chemung valley, New York. In other portions of the State large crops are now grown.

In some parts of Connecticut, for a number of years past, an extensive business has been done in tobacco growing. The variety cultivated is what is termed "Seed Leaf." We are not familiar with its peculiarities, but it is very productive. It is grown exclusively for manufacturing into cigars.

Kentucky State Agricultural Society.

The annual meeting of the Kentucky State Agricultural Society was held in Frankfort on the 14th of January. The following are the officers elected for the ensuing year.

PRESIDENT.

Brutus J. Clay was unanimously elected.

VICE PRESIDENTS:

For the first district, R. A. Alexander, of Woodford; second district, Dr. John A. Thomas of Mercer; for the third district, H. A. Anderson of Henderson.

DIRECTORS:

For the first district, Laban J. Bradford, Lucius Desha, Hanson Thompson; second district, D. W. Jones, J. R. Hughes, J. A. Moore; third district, John M. Sharp, Wm. M. Elam, Chas. H. Powell.

At an evening session of the board, the following officers were elected:

For Corresponding Secretary—Robert W. Scott, of Frankfort.

For Recording Secretary—T. P. A. Bibb, of Frankfort.

For Treasurer—James W. Tate, of Frankfort.

The Society adjourned to meet again in Frankfort on the first Tuesday in March next, when the time and place of holding the next Fair will be determined.

It is desired that delegates from all the county or local societies meet at the same time and with the State society, in order to arrange the time of holding their respective fairs, so that they may not interfere with each other.

THE CHINESE SUGAR CANE, ITS HISTORY, MODE OF CULTURE, MANUFACTURE OF THE SUGAR, &c., with reports of its success in different portions of the United States, and letters from distinguished men, written and compiled by James F. C. Hyde, Published by John P. Jewett & Co., Cleveland, Ohio.

This is a little work of 106 pages that seems to embody all the present available information upon a subject that is now most prominent among the agriculturists of the United States.

We are also indebted to Richard Peters, Esq., for a package of the seed grown by him in Georgia. The package weighs nine ounces and upon it is the following label, "Price \$1.00. When sent per mail post paid, \$1.30. This package of seed is sufficient to plant half an acre in four feet drills, 18 inches in the drill. Cultivate same as corn allowing all suckers to grow."

AGRICULTURAL BOOKS.—We call the attention of those who desire to purchase Agricultural books to the advertisement of J. M. Crawford in this number. His book store is one door west of the Valley Farmer office, St. Louis, Mo.

MISSING NUMBERS.—In many of the country post offices, we regret to know, from some cause, the Valley Farmer sometimes fails to reach its subscribers. In any instance where a number fails to come to hand we ask it as a favor to be informed of the fact at once, so as to supply its place by mailing another. We have frequent requests to furnish the February and March numbers of last year, but of them we are now entirely out.

Our receipts for January (this year) are more than quadruple what they were for the same month last year. This noble response on the part of our patrons will induce us to put forth renewed exertions in their behalf.

Several valuable articles that we intended should appear in the February number have been laid over for March.

IMPORTANT VERDICT.

George Page vs. Wm. H. Phillips.—This was an action brought by Mr. Page of Washington, D. C., against Mr. Phillips of Elmira, N. Y., for infringing the patent of the plaintiff in using his circular saw mill for sawing logs into lumber.

The suit was tried in the United States Circuit court, a few days since, before his Honor, Judge Hall and occupied the attention of the Court and Jury five days.

The plaintiff introduced his letters patent and averred that defendant had made use of his invention without license.

The defendant attempted to show that the plaintiff was not the original inventor because as he alleged, the same principle had been in use in the small circular saws for sawing laths, shingles, slitting, etc., more than forty years. The following questions were submitted to the jury, viz:

- 1st. Was the plaintiff the original inventor?
- 2d. Was the invention useful?
3. Has the defendant used it without license?

The jury found a verdict in favor of the plaintiff upon all the points, thereby establishing the validity of the plaintiff's patent on all the points.

We learn there are a large number of suits already commenced depending upon the same questions which have already been decided at Albany and in each of which the plaintiff claims two hundred dollars damages and costs and we are informed Mr. Page has directed the prosecution of every case of infringement and that nearly one thousand such cases exist.—*Sandy Hill (N. Y.) Herald.*

CASTOR BEANS.

Our attention has been drawn to the cultivation of the castor bean crop, as one which would pay the farmer a handsome return for his labor, and one that deserves and should command a much larger share of attention throughout the West. Nothing is more common than for our farmers to get in the way of raising the more staple products, like wheat, corn and oats, to the neglect of others, when a little attention to these would ensure a much larger compensation for their toil. Castor beans are easily cultivated and are a very sure crop, and leave the land in fine condition for wheat or other crops in rotation. The bean is always in demand at fair prices, and will command cash at the mills here at all seasons. And the amount of money realized by some of our farmers in years past, from their castor beans, is almost fabulous, as in good seasons when late frosts leave room for a protracted growth of the bean, the yield per acre reaches fifty or even seventy bushels, and all agree that a bushel of castor beans is as easily raised as a bushel of corn. The bean will command from one to two dollars per bushel, and corn from 25 to 50 cents. Beans are now two dollars per bushel.

The bean is planted in rows or hills, very much as corn is planted, say put the hills about three feet apart and the rows about three feet apart. Plant about three beans in a hill, and if they all come up, pull two out and leave one stalk only to the hill. They should be kept free from weeds, and cultivated the same as corn. They commence ripening earlier than corn—the lower pods ripening earliest, and before fully ripe the pods should be clipped off, as, if left on too long the beans will drop out and be lost. As the pods continue to ripen they should be taken off. The bean will continue to grow and ripen until frosts cut them down. The pods should be spread out on a yard or floor, and when dry threshed out with a flail, or by passing over them a light wooden roller, by hand, most of them however will drop out when they become dry. The hulls can be separated with a fan with suitable screens. The bean has a grey, spotted cast, very bright and glistening, and in size and shape is very much like a large wood tick. After they are separated from the hull they may be placed in store, and are ready for market at any time, without further attention. They should be kept in a dry place like wheat or other grain, but will not heat or spoil, and will keep any number of years, as beans sometimes come into market here after having

been in the hands of the farmer for five years.

They require a rich, mellow soil, which should be well prepared before planting, same as for corn. Plant from first to last of May, say from 10th to 20th. They will grow anywhere in this latitude, say throughout Indiana, Illinois, Iowa, Missouri, or south to the Equator, and every farmer can and should make it a point to plant a few acres every year. Beans for seed can be obtained at any of our seed stores or at the Oil Mills.

OFFICERS OF THE ILLINOIS STATE AGRICULTURAL SOCIETY, FOR 1887.—CYRUS W. WEBSTER, President; Salem, Marion county.

SIMEON FRANCIS, Corresponding Secretary; Springfield, Sangamon county.

PHILLIP WARREN, Rec. Sec.; Jacksonville, Morgan county.

JOHN WILLIAMS, Treasurer; Springfield.

The following are the names and post office addresses of the several vice Presidents of the society.

1st. Dist. H. Capron, Woodstock, McHenry county.

2d. Lewis Ellsworth, Napierville, Du Page county.

3d. J. E. McLure, Bloomington, McLean Co.

4th. J. H. Stipp, Canton, Fulton Co.

5th. J. W. Singleton, Quincy, Adams Co.

6th. A. B. McConnell, Springfield, Sangamon Co.

7th. Wm. Kyle, Paris, Edgar Co.

8th. Saml. A. Buckmaster, Alton Madison Co.

9th. Hawkins S. Osborn, Pickneyville, Perry county.

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In the description of the picket fence under head of "Portable Fence," in January number, the size of the rails should be 4 inches by 1 1-4, not 1-4 inches, as it there appears.

Singer's Sewing Machine.

Mr. Edwin Dean, agent for SINGER'S SEWING MACHINE, in St. Louis, has deemed it expedient, in consequence of the numerous applications to himself and others for information, and also for reference as to his responsibility, to publish a selection from the many testimonials of those who have thoroughly tested the merits of the machine. The respectability of the parties gives importance to their recommendation, while the prominence of most of them, is a guarantee to persons at a distance, that it is genuine and authentic.

The following is from the lady of Rev. C. B. Parsons, D. D.:

St. Louis, Jan. 20, 1886.

MR. EDWIN DEAN, Sirs:—I am using one of Singer's Sewing Machines, and am satisfied that it fully realizes your recommendation. I have much pleasure in making this statement, which I do for the benefit of those, who, like myself, may feel an interest in what I consider one of the most remarkable and perfect improvements of the age.

MRS. E. C. PARSONS.

We fully subscribe to the above.

STICKNEY & SCOLLAY,
Proprietors of the Planters House.
BARNUM & FOGG,
Proprietors of St. Louis Hotel.

"I have tried other Sewing Machines in my business of dress making, and most decidedly prefer Singer's, which I am now using."

Mrs. T. DICKINSON,
140 North Fourth street.

"Singer's Sewing Machines are undoubtedly unrivaled for manufacturing clothing."

BROWN, THATCH & CO., 72 Main street.

"We have found Singer's Machine superior to all others in the manufacture of lady's boots and gaiters."

G. M. FERGUSON & CO.,

Lady's Shoe Manufactory, 65 N. Fourth st.

"We are using Singer's Machine in the manufacture of gentlemen's boots and shoes, and are satisfied they cannot be recommended too highly."

J. & H. BORTH, No. 47 Locust street.

NEARLY READY—WITH SUGAR CANE SEED GRATIS!

CHINESE SUGAR CANE,

AND

SUGAR MAKING.

ITS HISTORY, CULTURE, AND ADAPTATION TO THE SOIL, CLIMATE, AND ECONOMY OF THE UNITED STATES.

With an account of

VARIOUS PROCESSES OF MANUFACTURING SUGAR.

Drawn from Authentic Sources,

By CHARLES F. STANSBURY, A. M.,

Late Commissioner at the London Exhibition of the Industry of All Nations, at London.

Price Twenty-Five Cents.

Published by C. M. SAXTON, & CO., 140 Fulton street, New York.

N. B. To persons enclosing 25 cents and a Three-cent Post Stamp, to us, we will send the above book and Seed enough to plant two rods square.

It C. M. SAXTON, & CO., 140 Fulton st. N. Y.

Pure Chinese Sugar Cane Seed.

The subscribers have just received of Mr. Jonas Gyer, his crop of this seed, raised in this State. It is for sale by the bushel or pound at a reasonable price. On the receipt of one dollar we will mail, and pre-pay postage on same, enough seed to plant two-thirds of an acre in hills 34 by 2 feet apart; this will give 8 to 4 seeds in a hill. Address

Wm. M. PLANT & CO.
St. Louis, Mo.

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